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ABSTRACT

This overview of 34 mostly rural counties in southern Illinois is intended to: (1) provide a mid-1980s look at Southern Illinois and its potentials for those who want to learn about the region; (2) provide the basis for further study of the region's many aspects and potentials; and (3) provide basic overview material for those studying particular communities and sites for possible development. The report describes and evaluates the region's current status with regard to population characteristics, education, health, income and employment, water resources, transportation facilities, agriculture, forests and forestry, mining, manufacturing, utilities, regional retail perspective, and tourism and outdoor recreation. Discussion of each of these topics presents ideas and directions for action to overcome some of the region's problems and to take advantage of the region's diverse potentials. The concluding section discusses four controversial ideas for regional development: (1) a barge and pleasure boat canal crossing Southern Illinois from the Wabash or Ohio River to the Mississippi; (2) a major lake at about 400 feet above sea level with a dam across the Mississippi River at Thebes (Illinois); (3) a lake formed by a dam on the Big Muddy River; and (4) a major airport for Southern Illinois. (JHZ)

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Report Series

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SOUTHERN ILLINOIS:
RESOURCES, PROBLEMS, OPPORTUNITIES

Primary Author and Editor

David E. Christensen
Professor of Geography, Emeritus
Southern Illinois University at Carbondale

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Carbondale

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Southern Illinois
University at Carbondale
Carbondale, Illinois 62901

Office of Regional Research and Service

June, 1985

Dear Colleague:

The Office of Regional Research and Service was established in 1981 in rededication to the historic commitment of Southern Illinois University to serving the people of the southern Illinois region. The Office merges two principal University missions--research and service--bringing knowledge to bear upon current and emerging issues of importance to the people of southern Illinois.

This report, Southern Illinois: Resources, Problems and Opportunities, written by Dr. Christensen and others, provides a useful overview of selected areas for development in southern Illinois. The ideas are presented to stimulate further discussion and, where appropriate, to set a path for action.

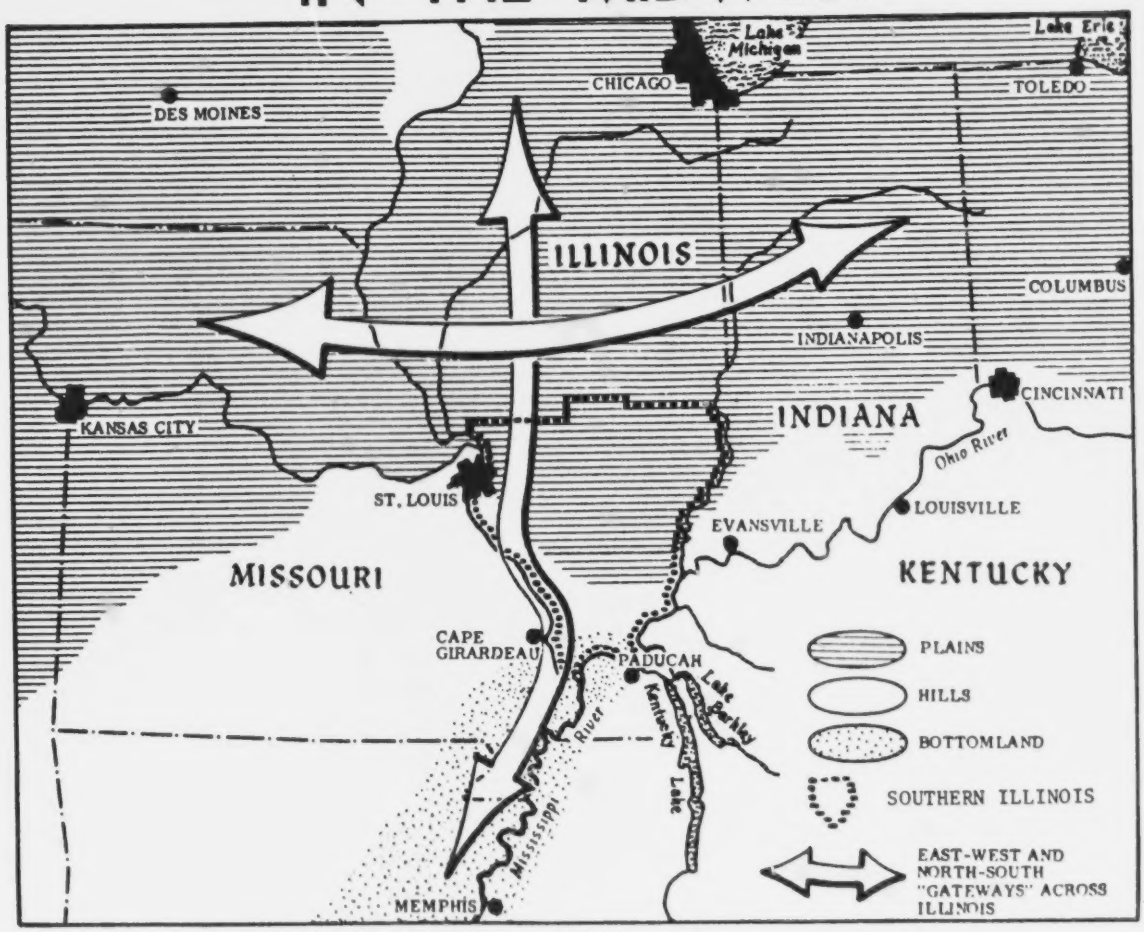
It is our hope that this document and others which will follow in our Report Series will form a base of information and data useful in the development of plans and courses of action leading to continuing growth and development in Southern Illinois.

We are grateful to Dr. Christensen for his effort and are pleased to share this document with you.

Samuel Goldman
Director

SG:mls

SOUTHERN ILLINOIS IN THE MIDWEST



Frontispiece

Preface

> "Southern Illinois, with its central position in the vast drainage basin of which it is a part, possesses industrial possibilities. I should also suggest that you have an opportunity to plan and achieve a region which is attractive to people for recreational visits or daily living.
>
> There is an unusual opportunity to demonstrate the effects of planning and leadership here. You have an unusually varied set of mineral, water, and land resources, and an unusually good location for markets and access to other resources. Of the many places I have seen in the world, few would seem to offer greater returns on intelligent, persistent planning effort."[1]

These statements were among the concluding remarks made by geographer Edward A. Ackerman in a 1957 presentation to a group of Southern Illinois University faculty members. The remarks are as true in 1985 as they were in 1975--but more urgent, and they give direction to this overview of Southern Illinois (frontispiece).

The purposes of this overview are three-fold: 1) To provide a mid-1980's look at Southern Illinois and its potentials for those who want to learn about the region; 2) To provide the basis for further study of the region's many aspects and potentials; and 3) To provide basic overview material for those studying particular communities and sites for possible development.

A 1979 overview of Southern Illinois, written by Professor David Christensen and Assistant Professor Doyne Horsley of SIU's Department of Geography, was used as a model for this overview, and a few brief sections and figures have been reused. Except for these and the frontispiece[2] this is a new document dealing with a larger area and in more detail. A few individuals who wrote drafts for all or part of five of the fifteen sections are identified in footnotes. Sections not so noted were written by David Christensen.

---

[1]Edward A. Ackerman, "Problems for Resource Development Planning in Southern Illinois," Occasional Publication of Southern Illinois University, SIU Press, Carbondale, 1960, p. 22.

[2]Revised from a map by Dan Irwin, Associate Professor of Geography, in 1967 publication edited by Christensen and Harper.

In this study "Southern Illinois" refers to the southernmost 34 counties in the state, including the Illinois portion of the St. Louis Metro area on the west, Alton and Effingham along the north edge and Cairo at the southern tip of the state.

This overview of Southern Illinois was undertaken with the encouragement of Dr. Samuel Goldman, Director of the Office of Regional Research and Service at Southern Illinois University at Carbondale. My thanks go to Dr. Goldman for his encouragement and support, and to the following individuals who helped on five of the sections: Doyne Horsley, Assistant Professor of Geography at SIU-C; Dwight McCurdy, Professor of Forestry at SIU-C; Joel Satterfield, Executive Director of Mt. Vernon's Convention and Visitors Center; and Todd Sigler, graduate student in SIU-C's Master of Public Administration program. Todd Sigler also assisted with the research on several of the sections. My thanks also go to Mary Smith, Dr. Goldman's secretary, who patiently made sense out of some very rough manuscript materials; to Rochelle Gimenez, who drafted most of the new maps; and to Carol Christensen and Paul Morrill, Professor Emeritus of Higher Education at SIU-C, for their critical reading of the manuscript and suggestions.

David E. Christensen
Professor of Geography (Emeritus)

Carbondale, Illinois
June 1985

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Summary and Regional Outlook

This section summarizes briefly the important aspects of Southern Illinois that are developed in the following sections and presents suggestions for taking greater advantage of the region's many potentials.

A. Population. Southern Illinois has an older, predominantly white and native population that is experiencing continuing out-migration of younger people. Economic development of the region is the key to reducing out-migration to yield a more balanced population in terms of age structure.

A large number of international students make Carbondale an unusually culturally diverse and interesting city. International students should be encouraged to speak about their home countries throughout the region to help overcome the general provincialism of Southern Illinois.

B. Education and Health. The region is improving, but still is behind the rest of the state in levels of education and health and in education and health facilities. SIU-C's School of Medicine has been a factor in encouraging some of its graduates to begin their careers in Southern Illinois, thereby helping to rectify one of the regions shortages.

The region's dispersed population lends itself to experiments using telephone, TV and computer delivery of modern education and health services to the smaller communities, hamlets and isolated homes.

C. Income and Employment. The economy of Southern Illinois is reasonably diversified. However, the region's higher rate of unemployment and lower incomes compared to the rest of the state indicate a need for more economic development.

Even though farming, forestry, and mining are very important in the region, they employ relatively few people.

More workers are engaged in manufacturing activities. The greatest number and proportion of workers, however, are in retail, trade and services, and this trend will probably continue.

The higher proportion of older people in Southern Illinois suggests that already the region functions as an area often chosen for retirement. With the mild climate, beautiful scenery and improving medical and shopping facilities, the region is a natural as a retirement area and it should be promoted as such.

D. Water Resources and Transportation Facilities. As a water-rich area, Southern Illinois has always had to cope with the problem of occasional flooding. However, its major rivers have functioned as highways since settlement began and, as the least expensive mode of transportation they should again become important as energy costs edge upwards.

With accessibility being a key to economic development, further improvements are needed to add to an already reasonable network of roads and highways. Kenneth Gray's proposal for construction of segments of four lane and two lane highways throughout the region needs to be adopted, funded and implemented.

The "Shawnee Lake" and cross state canal ideas might function as catalysts for the region's economic rejuvenation and they are worthy of further study and consideration. Gray's proposal for joint civilian-military use of the Scott Air Force Base could provide improved air service and accessibility for Southern Illinois and also merits study and consideration.

E. Agriculture and Forestry. Given the limitations of the region's rolling terrain, soil and over-abundance of moisture as well as the trend toward farm consolidation, farming in Southern Illinois is not likely to offer

opportunities for expansion or for increased employment. Increases in crop yields and especially in livestock production are possible and should be encouraged to make farming in this region a more attractive option for young people.

The same factors that are limitations on farming offer potentials for an increase in forestry activities. Increases in forest acreage, in commercial production and in forest industries are possible and should be encouraged.

F. Mining. Coal and petroleum production will continue to be important aspects of Southern Illinois' economy even though they, too, employ relatively few workers.

Secondary recovery techniques will extend production from the region's petroleum fields for a few decades. Coal reserves should last much longer, but their use will hinge on standards of air pollution and anti-pollution technology. Their use also will be related to costs for quality reclamation of strip mined land.

Southern Illinois has thousands of acres of land that were strip mined before laws requiring reclamation were in place. These unproductive, unsightly and dangerous areas should be reclaimed to add useful lands for agricultural, forestry and recreational uses.

Large sections of the older underground mining areas of Southern Illinois have been undermined, leaving a continuing problem of subsidence and limitations on surface uses.

G. Manufacturing and Utilities. Southern Illinois is a region in which light and diversified manufacturing is "at home" and manufacturing employs about one in every four workers. The region has advantages in water resources, all modes of transportation, energy resources and utilities, improving education and health facilities and a location at the southwest edge of the United States' great northeastern concentration of population, cities and factories. But despite these advantages Southern Illinois has not experienced the

boom in manufacturing that should be possible. Highway improvements could facilitate Gov. Thompson's suggestion for an industrial corridor from Carbondale to Belleville.

Several region-wide economic development efforts and organizations have been or still are active (Southern Illinois, Inc., Illinois South, and a 1982-1983 effort coordinated by John Gardner of the Southern Illinoisan). Utility companies and groups in individual towns and cities also have prepared materials focusing on particular sites that are available. All of these efforts should be continued and expanded.

Instead of individual communities struggling independently to attract new industries and other economic development, a new regional effort has been started under the leadership of State Senator Glenn Poshard. The region's sudden efforts early in 1985 to prepare and present its potential sites for the proposed GM Saturn plant were the impetus for Senator Poshard's new regional initiative. The Saturn experience dramatized the need for a region-wide approach to development which should be put on a continuing basis. Region-wide efforts should coordinate the region's potentials for industrial, commercial, and tourism development.

The possibilities of a cross-state canal for increasing accessibility of the interior towns and counties of Southern Illinois to less expensive bulk transportation also should be explored as a stimulus to further manufacturing development.

H. Tourism and Outdoor Recreation. The lakes and streams, hills, forests and fascinating rock formations of Southern Illinois have always given the area a reputation of natural beauty. It has been a region people "come home to," and the last three decades have seen an increase in tourism and outdoor recreation activities and facilities.

Given the region's location on the fringe of the United States' great northeast concentration of population and industry, Southern Illinois is a natural for development of its recreation potential for tourists, industrial employees

and retirees. However, carefully planned development is required. In too many other areas that have experienced a boom in tourism, the natural features that made the area attractive have been destroyed or compromised. By learning from these experiences Southern Illinois can profit from the recreation and tourism opportunities which the region offers without destroying its unique character and beauty.

The Shawnee Lake proposal discussed in the concluding section deserves consideration as a project whose advantages for many aspects of regional development may significantly outweigh its disadvantages.

I. Settlement

Southern Illinois occupies a strategic position in the Midwest. It has been called the "confluence region" because seven major rivers come together along its borders. These rivers are the Wabash, Ohio, Cumberland, Tennessee, Mississippi, Missouri and Illinois. Because of the landforms of the Midwest, Southern Illinois and Missouri control the "North-South Gateway" across the center of our nation (Frontispiece). And historically Southern Illinois was a focal point for gateway routes down the Ohio River and up the Mississippi.

Throughout the two centuries of its history of European settlement, the area that now comprises the 34 counties of Southern Illinois has been river-oriented and among the most hilly and forested parts of the Midwest (Figure 1). In both of these characteristics this area stands in sharp contrast to the other regions of the State. As late as 1967 the region accounted for 38 percent of the state's forestland even though it comprised only 30 percent of the state's area.

The Ohio River, along the region's southeastern boundary, was the first major highway and connected the virgin region with the developing East. The Mississippi River, along the region's western boundary, provided access to the North and to New Orleans' markets in the South. Southern Illinois became known as "Little Egypt," a place that, even in the mid-1700's, was rich agriculturally and shipped surplus grain to famine stricken New Orleans.[1]

Some of the earliest manufacturing in the state took place in the salt works along the Saline River, and coal mining in the state began in the early 1800's along the Big Muddy River in Jackson County.

A few roads and finally the building of the Illinois Central Railroad in the mid-1800's encouraged settlement and agricultural development throughout much of Southern Illinois. However, despite its earlier settlement and development, the region was soon surpassed in agricultural production by the state's rich cornbelt midsection, and it was overshadowed by Chicago and other upstate cities in manufacturing and commerce. The region has remained the state's primary coal and oil mining region.

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[1]William A. Pitkin, "Southern Illinois, Land of Fruitfulness and Plenty," July 1963 (Mimeographed copy), p. 2.

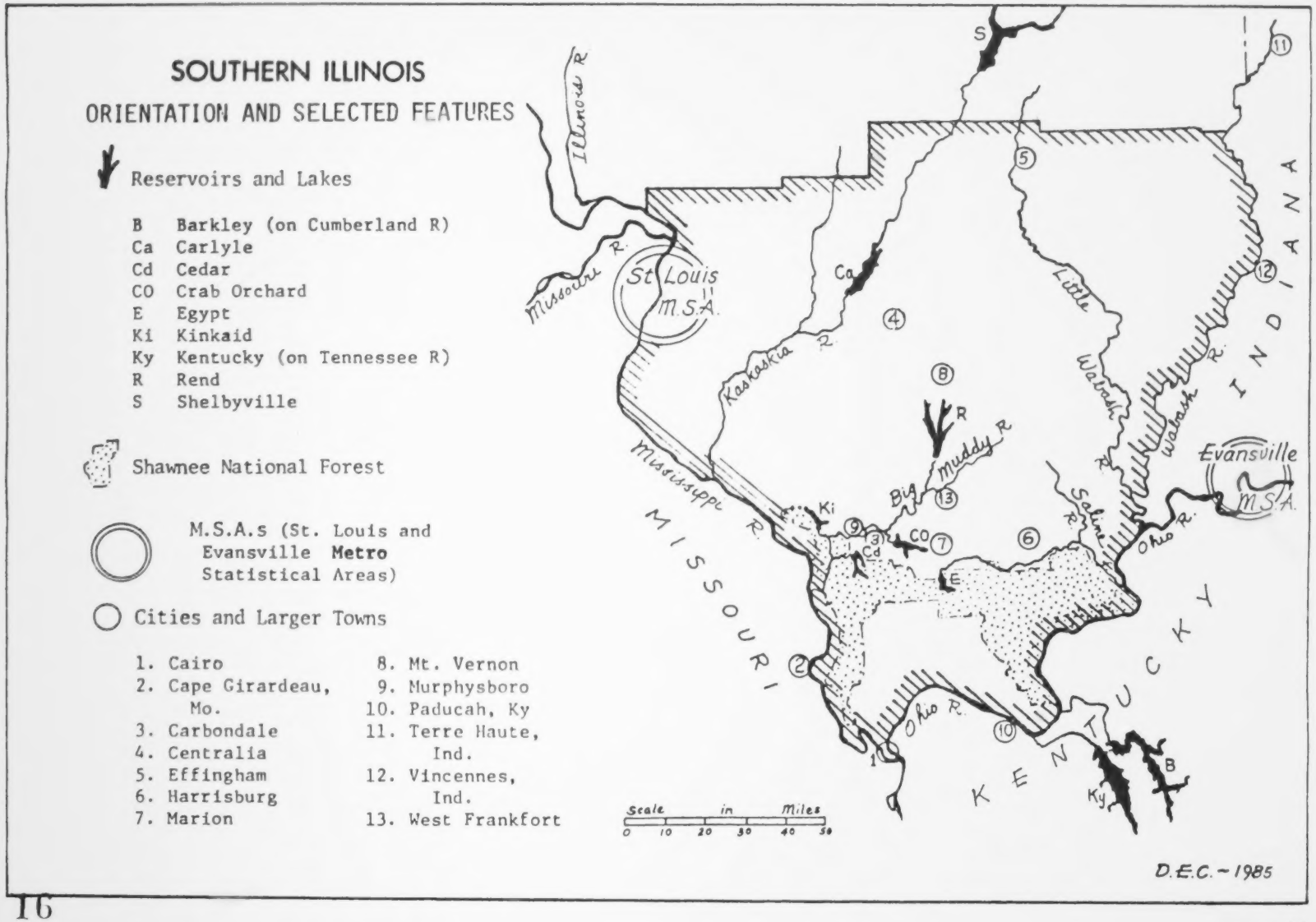
SOUTHERN ILLINOIS
ORIENTATION AND SELECTED FEATURES
Reservoirs and Lakes
B Barkley (on Cumberland R)
Ca Carlyle
Cd Cedar
CO Crab Orchard
E Egypt
Ki Kinkaid
Ky Kentucky (on Tennessee R)
R Rend
S Shelbyville
Shawnee National Forest
M.S.A.s (St. Louis and Evansville Metro Statistical Areas)
Cities and Larger Towns
1. Cairo
2. Cape Girardeau, Mo.
3. Carbondale
4. Centralia
5. Effingham
6. Harrisburg
7. Marion
8. Mt. Vernon
9. Murphysboro
10. Paducah, Ky
11. Terre Haute, Ind.
12. Vincennes, Ind.
13. West Frankfort
Illinois R.
Missouri R.
St. Louis M.S.A.
Kaskaskia R.
Big Muddy R.
Mississippi R.
Little Wabash R.
Wabash R.
Saline R.
Ohio R.
Evansville M.S.A.
MISSOURI
INDIANA
KENTUCKY
Scale in Miles
0 10 20 30 40 50
D.E.C. - 1985

Figure 1

For most of the decades of this century Southern Illinois has been known as a depressed coal mining area. The area has become a region of diversified light manufacturing and, in recent decades, has become more important at a recreation area.

II. Population Characteristics*

The 34 Southern Illinois counties comprise 31.5 percent of the area of all counties in Illinois. The total 1980 population of these 34 counties (1,210,255) comprises only 10.6 percent of the total state population. Thus in comparison to the rest of the state, Southern Illinois has a low population density.

In most of the 34 counties over half of the total population lives in rural areas, and six of these counties have 100 percent of their population defined as rural.** Only two out of the 34 counties experienced a reduction in the number of rural people between 1970 and 1980. Furthermore, only two of the counties approached the state average for urban population of 83.2 percent (Madison, 81.8 and St. Clair, 87.5). both of these counties are located within the St. Louis Metropolitan Statistical Area (MSA).

As has been the case throughout the colonial and recent history of Southern Illinois, the vast majority of the population is white and of European ancestry. Sixteen counties in Southern Illinois report less than a half percent of their population as black and six of these report no black population at all (Figure 2). Three counties report a substantial portion of their population as black. One county (St. Clair, 27.5 percent) includes the city of East St. Louis, and Alexander and Pulaski Counties, at the southern tip of the state were formerly cotton producing areas and for decades have had large black populations (31.1 and 33.1 percent, respectively).

Foreign-born people comprised about 7 percent of Illinois' population in 1980 but no county in Southern Illinois came close to that figure. In

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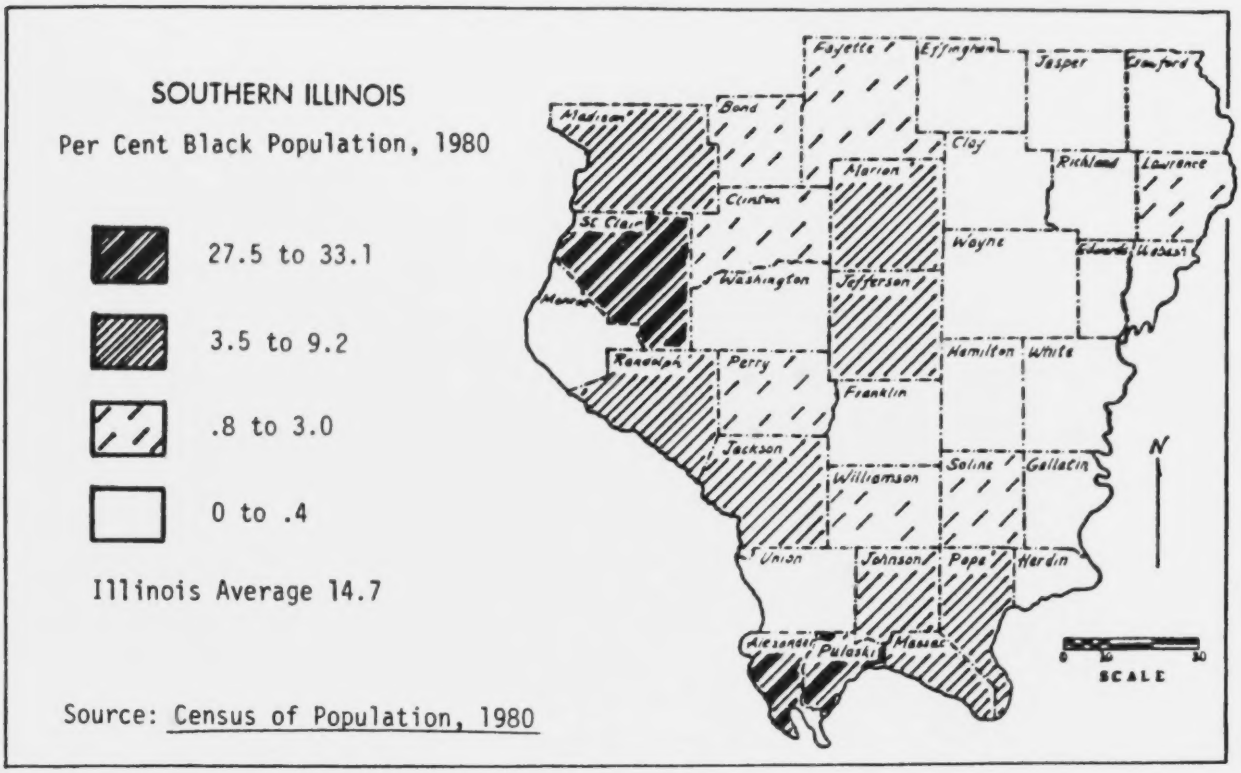
*Written in part by Todd Sigler, MPA Graduate Student.

**A rural area is defined by the U.S. Bureau of the Census as a place with 2,500 people or less.

Figure 2

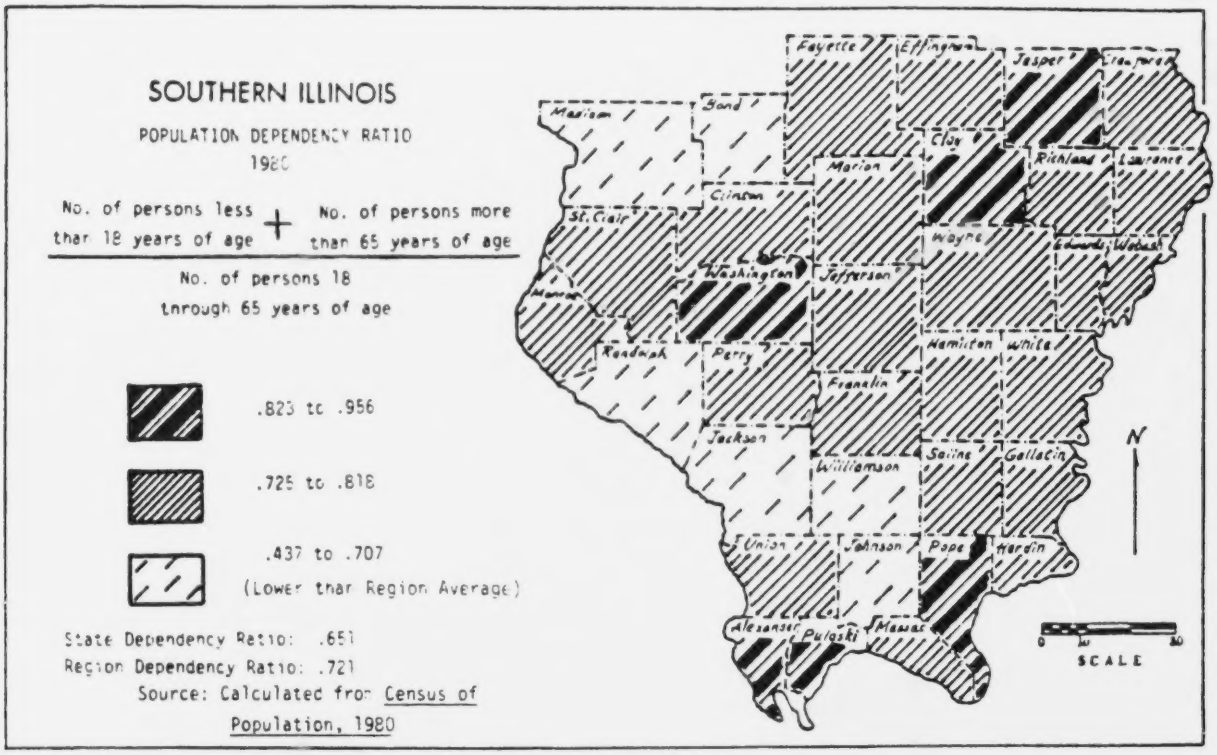


1980 Jackson County had over 2,000 international students and 3.7 percent of its population foreign-born, the highest in the region.

With very small portions of the population being black, foreign-born or Spanish speaking, it is clear that Southern Illinois is a predominantly white area whose population is native to the region.

The 34 Southern Illinois counties have an older population than the State of Illinois as a whole with an average median age of 32.9 years, 3 percent higher than the state median age of 29.9. Slightly more than half of the total number of counties have a median age of 33.0 or higher. When one breaks the population into age cohorts, the highest percentage of the total population in every county (excluding Jackson) falls in the 40 to 64 years of age cohort. In Jackson County, the age group with the highest number of people was the 15 to 24 age cohort which can be attributed largely to the Southern Illinois University student population.

Figure 3



Southern Illinois has about the same proportion of children under 16 years of age in the total population as the rest of the state, so its higher dependency ratio (Figure 3) must be attributed to the larger proportion of older people and a slightly smaller proportion of working age people.

The population of Southern Illinois increased 3.65 percent between 1970 and 1980, a gain rate about one-third larger than Illinois' total gain during the decade (Figure 4). Both of these gain rates, however, are far below the national average and therefore show that the state and the Southern Illinois region are experiencing a steady out-migration, mostly of younger people, to other parts of the country.

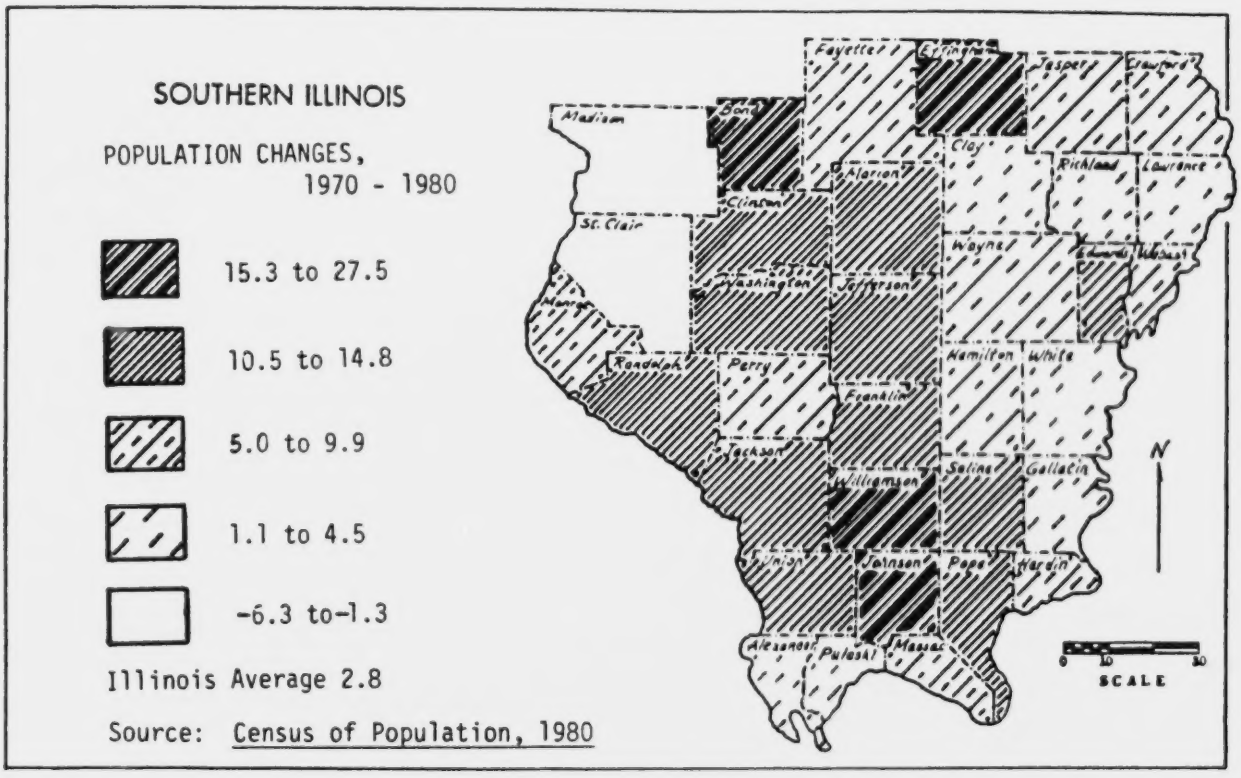
Population projections for the 34 county region for the years 1990 and 2000 are shown in Table 1. The nearly 4 percent projected increases for

Table 1

Southern Illinois Population Projections

Year	Population	% Gain in Decade
1980	1,210,255	
1990	1,256,487 (proj.)	3.82
2000	1,304,485 (proj.)	3.82

Figure 4



each decade to the year 2000 were based on the average percent increase for 10 year periods from 1930 to 1980. Almost all of the gains will be in the larger urban centers and their fringe areas, with the probable exception of East St. Louis, which may continue to lose population.

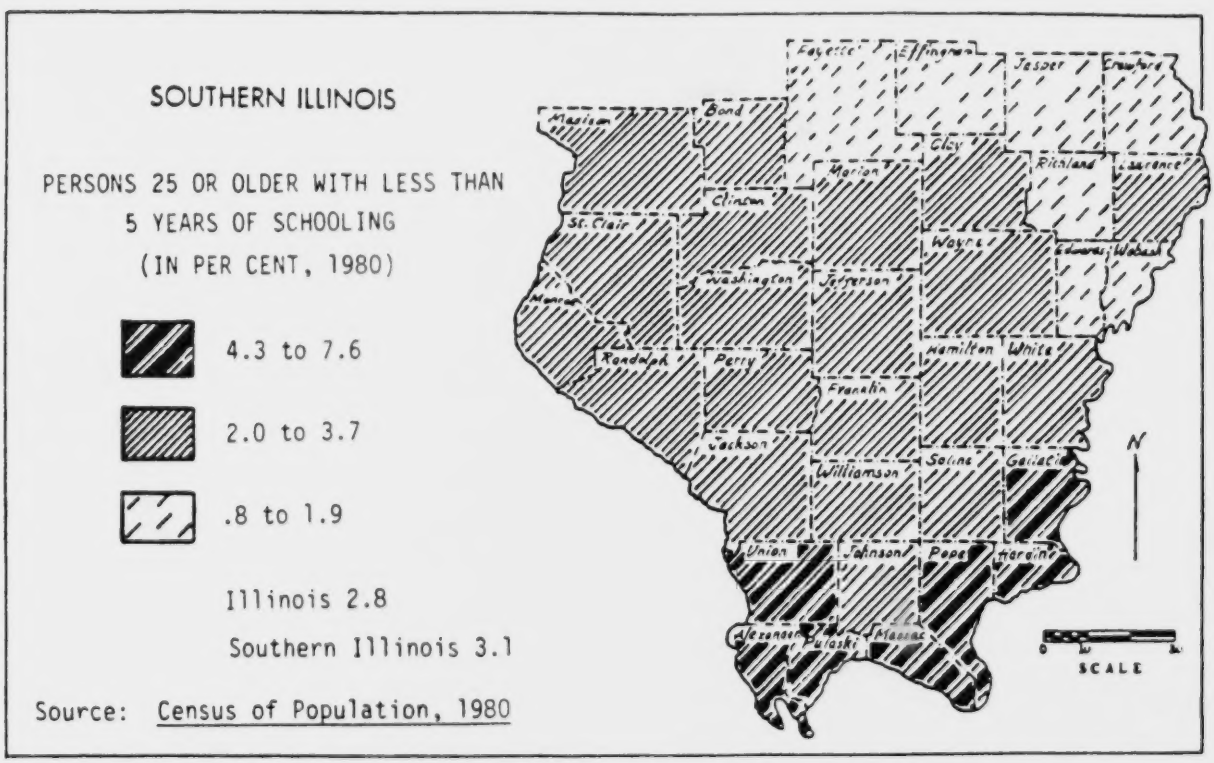
III. Education

For persons 25 years old and older in Southern Illinois, the median years of school completed in 1980 was 12 (over 3 years more than in 1960). Several among the southern-most counties still had less than 50 percent high school graduates in 1980 and very few college graduates among persons over 25 years of age, but this was counterbalanced by Jackson County (with SIU-C), counties in the East St. Louis area, and several in the northeast part of the region where higher percentages of high school and college graduates prevail.

Adults with fewer than 5 years of schooling are found mostly in the state's southernmost seven counties (Figure 5). In 1970 percentages of adults with less than 5 years of schooling ranged from 8 to 19 in the southernmost counties, about 3 times the current percentages.

Despite Southern Illinois' lower educational levels than the state averages its educational workforce is 9.5 percent of all employed persons,

Figure 5



in contrast to 8 percent for Illinois. A higher proportion of workers in education may have been helpful in raising levels of educational achievements in recent decades and in lowering the proportion of adults with little schooling. The aging of the less schooled in the population was no doubt also a factor in this improvement.

In addition to its elementary and secondary school facilities Southern Illinois has three community colleges providing two year programs, eight colleges offering four year programs and baccalaureate degrees, and two universities. Southern Illinois University at Carbondale, offering programs from the baccalaureate through doctorate degree in a wide range of subject fields, has for over three decades assisted in the development of the region. And Southern Illinois University at Edwardsville, a newer institution, offers baccalaureate degrees and masters degrees in many fields and the doctorate in education.

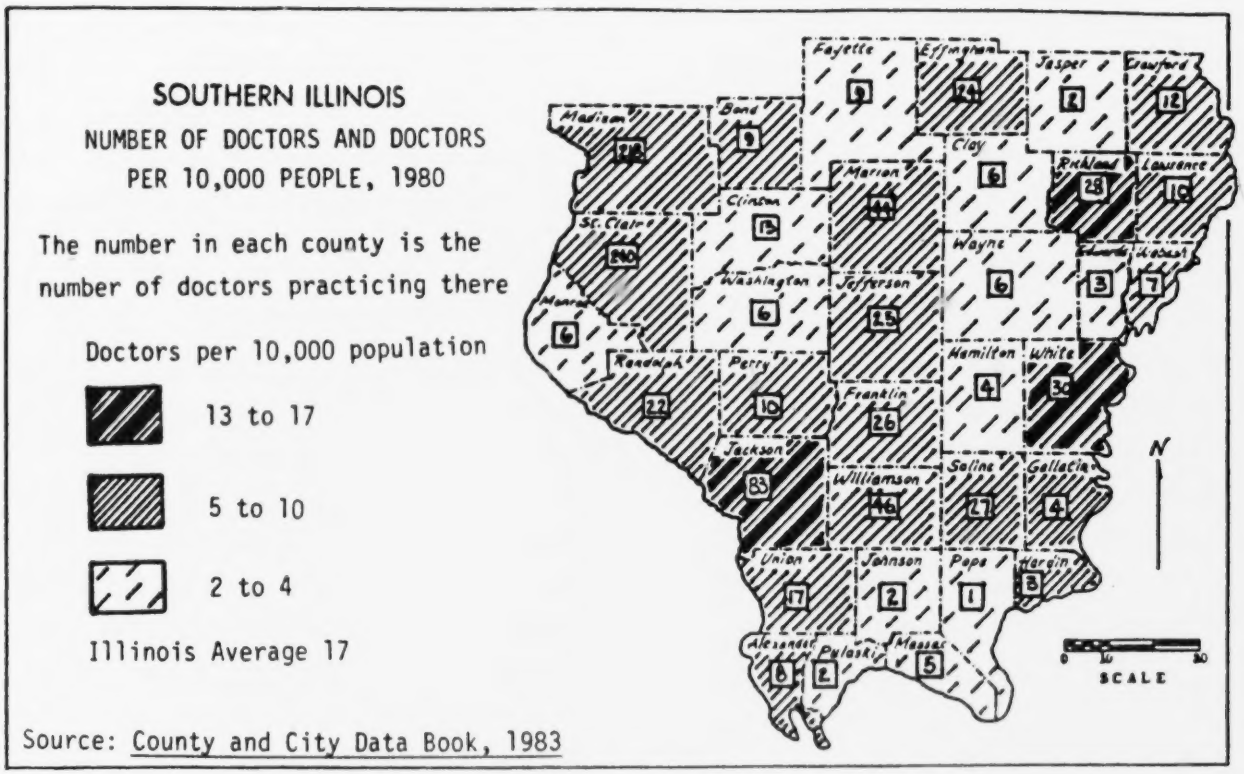
The "bottom line" in regard to education is that the region is improving in education accomplishment and has a pool of well educated and aware people who would be available as workers in new businesses that could be established.

IV. Health

Improving an area's health facilities is somewhat of a "chicken and egg" problem. Which comes first: Doctors to help improve health or economic improvement to pay for doctors and hospital bills? Doctors usually are not attracted to areas of lower income, despite their greater needs for health care. Thus, regions and areas in greatest need of doctors, hospitals and clinic facilities--and even with improvements that are made as in Southern Illinois in general--have continued to lag behind areas that already are better served medically.

The average number of doctors per 10,000 people in Illinois is 17, and in 1980 Southern Illinois had only one county (White County) which matched that figure. All other counties in the region were below the Illinois average and many of them well below (Figure 6). Whereas this would have indicated a serious lack of adequate medical services a few decades ago, the good roads and high mobility of today's population make it possible for

Figure 6



Source: County and City Data Book, 1983

most people in counties with few doctors to seek medical assistance in not too distant larger towns where more doctors and health care services are available.

Infant mortality* is a multi-faceted index to health care services and other health related factors. In 1982 the State of Illinois had an average infant mortality rate of 13.6 while Southern Illinois' rate, between 11.3 and 11.8, was significantly lower.** Southern Illinois' infant mortality rates for white and non-white segments of the population also were lower

*The infant mortality rate is the number of deaths of infants to one year of age among 1,000 live births.

**Illinois Dept. of Public Health, Vital Statistics in Illinois, 1982, pages II. 001, 062-092, 110-114 (data for Illinois and Health Service Areas 5 and 11).

than those for the state as a whole (Illinois: white 10.7, non-white 22.9; Southern Illinois: white 9.1-10.6, non-white 19.6-21.1). This is true probably because of much higher birth rates and infant mortality rates in some of Chicago's poorer neighborhoods. The great difference in mortality rates for white and non-white infants in Illinois and in Southern Illinois is striking and underscores the additional insights which the infant mortality rate provides into income levels, quality of nutrition, literacy, and availability of health care. Obviously, in the state as a whole and in Southern Illinois the non-white population, largely blacks, is shown through its much higher infant mortality rate to be greatly disadvantaged. Non-whites, with lower incomes, also would be less mobile and therefore less able to drive even modest distances to seek medical care in the larger towns.

With cutbacks in health service funding since 1981 the infant mortality rate among our more disadvantaged citizens actually increased between 1982 and 1983, according to statistics just released from the Illinois Department of Public Health. This is an alarming situation that needs the immediate attention of enlightened citizens and political leaders.

In spite of this bleak statistic, health facilities in Southern Illinois are being improved. New clinics and outpatient surgical facilities have been built, or are under construction, in Carbondale and Marion. Emergency helicopter service is available to hospitals and specialists in St. Louis. Highly specialized equipment and procedures, such as laser eye surgery and the new NMR (Nuclear Magnetic Resonance) Scanner, are available in the region. As in most of the country, Southern Illinois also is experiencing an expansion of home health care services and an increasing interest in "wellness" and "self-care" through exercise and nutrition. These improvements and trends bode well for the better health of Southern Illinoisans in the years ahead, especially if funding for basic health care programs could be restored.

V. Income and Employment

Although Southern Illinois was settled before other sections of the state, throughout most of its history it has lagged behind the rest of the state in terms of levels of living and income.

Its economy was dominated for decades by agriculture, mining and forestry activities which, as extractive industries, provided relatively low incomes. Only since World War II has the economy broadened to include more manufacturing and tourist activities, but even with these, the Southern third of the state has been called "The Other Illinois," the part of the state that has lagged behind the more prosperous and powerful cornbelt and Chicago's metropolitan regions.

The average household income in Southern Illinois ($17,000) is about $7,000 lower than the state average. Incomes within the region tend to be higher in the counties nearer to St. Louis (except St. Clair) and lowest in counties among the 12 most southerly in the state. No county in Southern Illinois in 1980 had an average household income at or above the state average.

Between 1970 and 1980 the greatest employment change that took place in Southern Illinois was a reduction in the number and proportion of manufacturing workers in the total. During this same decade Illinois as a whole had an increase in manufacturing workers (even though their proportion of the total was smaller in 1980) (Table 2).

Table 2

Number and Percent of Employees in Selected Categories, 1970 and 1980: Illinois and Southern Illinois

	1970				1980			
	Illinois		Southern Illinois		Illinois		Southern Illinois	
	No.	%	No.	%	No.	%	No.	%
Total	4,465,516	100	407,219	100	5,068,428	100	464,330	100
Agriculture Forestry and Fishing*	111,534	2.5	22,995	5.6	112,474	2.2	20,982	4.5
Manufacturing	1,255,815	28.1	98,981	24.3	1,307,999	25.8	92,409	19.9
Mining	20,068	.4	11,917	2.9	32,997	.7	20,702	4.5
Public Admin.	186,798	4.2	20,623	5.1	217,229	4.3	24,070	5.2

U.S. Census of Population, 1970 and 1980.
(*98.5 percent of workers in this category are in agriculture.)

Table 2 also shows the continuing decline in the number of agricultural workers in Southern Illinois, but again a slight increase occurred in the state as a whole.

There were about 12,000 more miners in Illinois in 1980 than in 1970, and three-fourths of this increase took place in the coal fields of Southern Illinois.

The last item in Table 2 shows that public administration employment in both Illinois and Southern Illinois increased over 16 percent in the decade of the 1970's (from 20,623 to 24,070 in Southern Illinois), even though the population increased by only about 2.8 percent! These figures show Parkinson's Law* at work or an increase in government services provided, or both!

High average unemployment rates and seasonal or part-time employment have always been a problem in Southern Illinois. In recent decades mining in the region has been a less than stable employer, with large scale occasional layoffs and strikes. Farming also is a part-time and marginal activity for most of the region's farming families.

Unemployment rates in Southern Illinois counties were varied in 1981, from 4.9 percent in Edward County to 20.1 percent of the work force in Gallatin County. Rates were even higher in 1982, with 6 counties experiencing unemployment increases greater than 5 percent. In general the region's southern most counties (except Jackson) have had the highest unemployment rates. Jackson County is again unique in the region in being the only county with a lower unemployment rate in 1983 than it had in 1981.

In spite of its high unemployment rate and decline in number of manufacturing jobs, the total number of persons employed in Southern Illinois increased 14 percent in the 1970-1980 decade, a rate over three times the population increase. Most of these new workers found positions in a wide range of service and retail establishments.

In the sections that follow aspects of Southern Illinois' natural resources and major segments of its economy and infrastructure are examined briefly.

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*Administrative personnel and services tend to proliferate at a rate faster than the increase in the number of people being served.

VI. Water Resources*

Climate, water resources and Southern Illinois' natural environment are interrelated in many ways. Since the first humans selected the "land between the rivers" water has been the logical link between the natural environment and social and economic development. Through the years, the Mississippi, Ohio, Little Wabash, Big Muddy, Kaskaskia, Saline, Cache, and Embarrass Rivers (Figure 1) served as major "highways", food sources, and mainsprings for economic development. Dams, diversion channels, reservoirs, sewers, irrigation and drainage ditches have been constructed to divert, drain, store and manage the 11,200 square miles of floodplain basins in Southern Illinois. The water resources in these river basins cover 7½ million acres and have been the springboard for major political decisions affecting hundreds of farmers, thousands of water consumers, and dozens of towns and cities. Water management has focused primarily on flood control for farmers, on towns sited partly in floodplains, on water supplies for towns and cities, and on recreational development.

Southern Illinois' wealth in water resources stems from the region's generous and dependable annual precipitation, ranging from 35 to 55 inches. However, variability in the yearly precipitation does cause some problems. Some years with less than average precipitation or with drier than usual seasons cause problems for farmers and municipalities. Other years or seasons may be unusually wet and cause flooding problems and delay farming operations. Flooding continues to be a problem in Southern Illinois because the region has the heaviest rainfall in Illinois and also because the region has the roughest topography and the least permeable soils and therefore the greatest runoff potential.

Even though Southern Illinois' primary water users are municipal and agricultural, with a much smaller consumption by the industrial sector, future supply and demand must be well-managed especially since water quality now is regulated by federal legislation. The 1973 Federal Clean Water Quality Act and its numerous amendments have forced water managers to maintain acceptable water quality levels. Consequently, Southern Illinois

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*Written by Doyne Horsley, Assistant Professor of Geography, SIU-C.

streams have better water quality indices than the more troubled urban streams across the rest of Illinois. However, high levels of selected water pollutants are found periodically in Southern Illinois' streams near its largest cities and near its older strip-mine fields.

Water quality maintenance in conjunction with present clean air standards should inhibit major polluting problems from developing in Southern Illinois. Nonetheless, these stringent environmental standards should not curtail further development in Southern Illinois. Indeed, their enforcement is more likely to enhance the region's potential for many uses as a "quality environment" in the future.

VII. Transportation Facilities

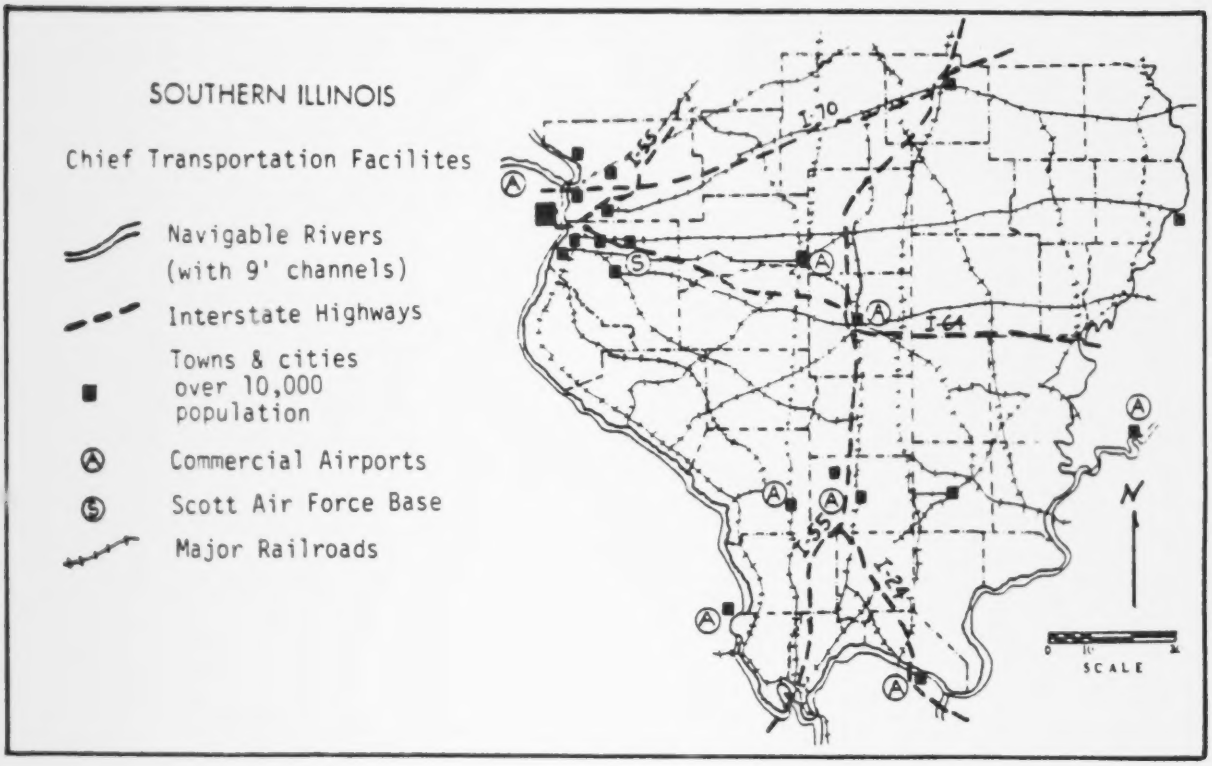
Transportation facilities and accessibility are key factors in settlement and economic development. It already has been pointed out that Southern Illinois is well endowed with water transportation capabilities and that major rivers on the fringe of the region have been important in the area's settlement and development (Figure 1). Barge handling and storage facilities are available at several port towns on the Mississippi and Ohio Rivers.

Railroads, too, figured prominently in the region's settlement and the region is still traversed by a generous network of rail lines (Figure 7). In the coal mining areas there is an even more dense network of railroads than is shown on the map.

The region also is well served by other modes of transportation. Interstate highways 57 and 24 join near the Southern tip of the state and I-57 forms a spine as it proceeds north to Chicago. The region is crossed from east to west by I-70 and I-64, both of which connect St. Louis with major cities to the east (Figure 7). Numerous federal, state and county highways form an intricate network of accessibility to all of the region's 600 settlements, towns and cities.

Four commercial airports within Southern Illinois and three on its borders serve the region with scheduled air passenger and freight service (Figure 7). All of the commercial airports are associated with cities with more than 10,000 population. Scheduled service within the region feeds major airlines operating out of St. Louis and Evansville.

Figure 7



For decades the Southern Illinois region suffered as an economic backwater because of its poor roads and relative inaccessibility. With the Interstate highway system and scheduled airline service, limited accessibility is no longer a factor discouraging economic development.

Energy problems in the United States over the next decades are likely to shift part of the transportation of many items back to the railroads and for bulk materials will likely be handled once again by rivers and inland waterways. Southern Illinois should be advantaged by both of these prospective developments.

VIII. Agriculture

Since the time of its settlement 180 years ago, farming has been one of the chief economic activities in Southern Illinois. Harvested cropland

and woodland still comprise over 70 per cent of the region's area, yet these lands directly support only about 4 per cent of the population.

> "The area's climatic characteristics have been less important than landform and soil conditions in their effect on the agricultural landscape. This area occupies a position on the margin between the humid eastern half of the nation and the Great Plains over which continental climatic characteristics prevail. In fact the weather is a constant variety of changing conditions. Summer days with hot, humid, and cloudy Gulf-like weather are followed by clear and dry conditions that sweep in from the Great Plains and Canada. In winter the location immediately south of the January 32° isotherm or "freezeline" accentuates the changeable nature of the weather. Brief below-zero periods, many dull, damp, and cold days with temperatures in the 20's to 40's, and intervals of mild weather with temperatures in the 60's characterize the winter season."[1]

Winter weather is so varied that "averages" mask the reality of the contrasting bitter cold or mild periods that intermittently characterize the December to March season.

> "The annual average of 40 to 50 inches of precipitation supports the forest growth that is natural to most of this locale. However, even with adequate moisture and very infrequent prolonged summer droughts or deluges, it must be added that soil and mantle conditions seriously limit the ground water supply that might be expected under these moisture conditions. Ample moisture and an average frost-free period of 190 to 200 days make possible the production of a wide range of agricultural produce. These include on the one hand, grains, forage crops, and deciduous fruits, typical of the middle latitudes, and, on the other hand, cotton, a crop associated with sub-tropical conditions."[2]

In contrast to the climatic advantages of Southern Illinois, the tightness of the soils has always been a handicap to agricultural activities. Virtually all of the region's soils developed in a humid, forest environment and all are acidic and low in organic matter.

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[1]David E. Christensen and Robert A. Harper, Co-Editors, The Mississippi-Ohio Confluence Area, National Council for Geographic Education, Special Publication Number 12, 1967, p. 20.

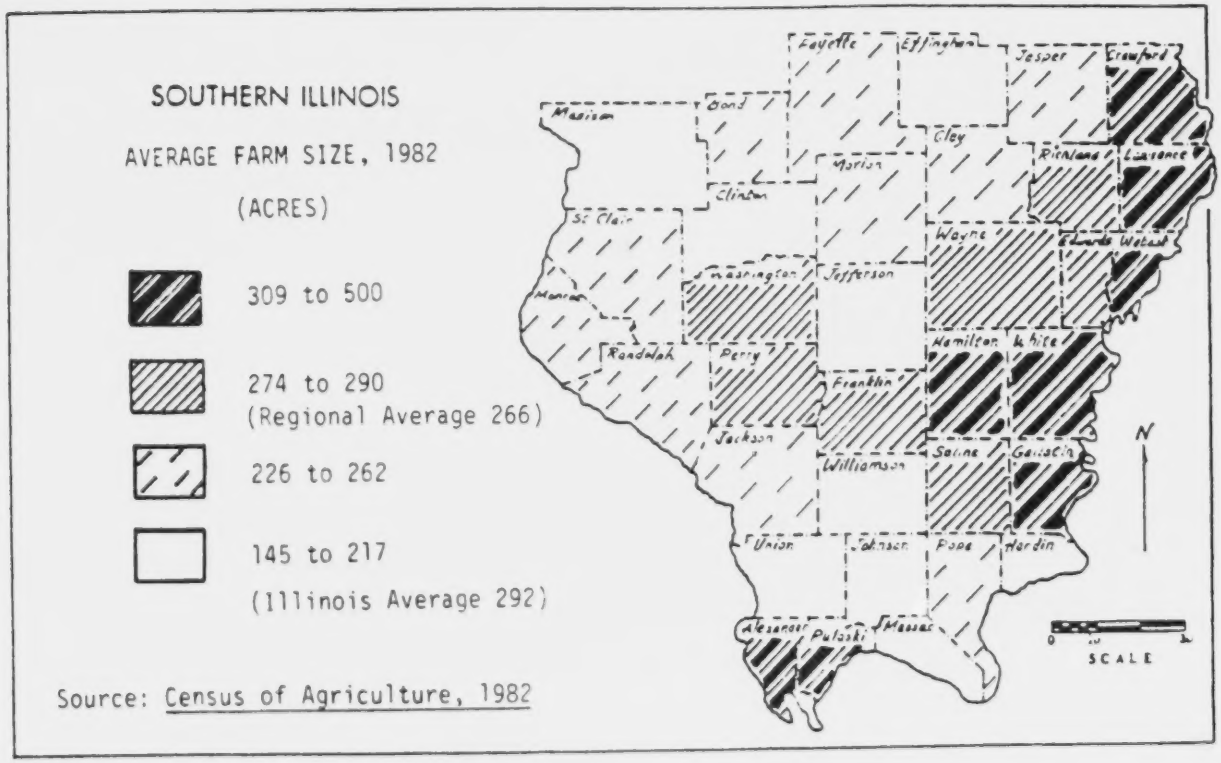
[2]Ibid., p. 21.

Furthermore, much of the area is underlain with a tight "hard pan" which prevents good drainage, with average surface runoff accounting for about 25 per cent of precipitation.

Southern Illinois has a long and stable tradition in farming. As a measure of the stability of the farming economy, about 80 per cent of the region's farms have been and are owner or part-owner operated. Only 20 per cent of all farms are tenant operated and the number of tenant operated farms declined 14 per cent between 1978 and 1982.

The average farm size in Southern Illinois is increasing steadily with farm consolidation (148 acres in 1954, 203 in 1964, 237 in 1974, and 266 in 1982). However, even with these increases, farms in Southern Illinois remain smaller than farms in Central Illinois and there is a wide range in farm size among Southern Illinois' 34 counties (Figure 8). Farm consolidation is further reflected in the small number and percentage of

Figure 8



workers (16 years old and older) who work on farms. In 1970 about 5.5 per cent of the region's workers worked in agriculture; in 1982 this percentage had declined to 4.4.

Between 1978 and 1982 the total area of farms in Southern Illinois declined about 4 per cent, however, cropland harvested increased over 1 per cent. Even so, cropland declined in about half of the counties, and woodland declined in over three-fourths of the counties. Pastureland remained about the same with almost as many counties showing increases in pastureland as declines.

Almost all of the counties in Southern Illinois increased corn, soybean and wheat production between 1978 and 1982. During these few years corn production increased by 33 per cent, soybean production by 14 per cent, and wheat production increased by 77 per cent. Corn and soybean production increases were greater than the average increases for the state as a whole. While cattle sales declined 24 per cent (in terms of number of cattle and calves sold), about half of the counties increased hog and dairy production during this time. Even with significant increases in livestock and dairy products sales in recent years, Southern Illinois remains predominantly a grain producing area, with the value of grain accounting for three times the value of livestock products sales.

Apple and peach production continues to be important in the hillier portions of Southern Illinois, although recently several harsh winters have dealt a severe blow to many of the orchards.

The long and stable tradition of farming in Southern Illinois does not mean that it is a region of prosperous farmers. The region is still the lowest in the state in terms of per acre expenditures for fertilizer and chemicals and overall farm expenditures. All counties are well below state averages in corn and soybean production and yields, and only in wheat production does the region compete well with the rest of the state. Average income per harvested acre in Southern Illinois is only about three-fourths of the state average, and average farm income is only about 64 per cent of the state average. As significant as these disparities that show the lower productivity and prosperity of Southern Illinois farms is the additional fact that the region fell further behind the state in average income per harvested acre between 1978 and 1982. Still another indication of the difficulty of making a living from farming in Southern

Illinois is the fact that in 1982 only 43 per cent of farm operators in the region work at farming full time; the rest supplemented their income by off-farm work. In fact, about one-third of the farm operators had principal occupations other than farming and worked more than 200 days off the farm.

The escalation of basic farm operation expenses and inflation have made it more and more difficult for farmers to remain solvent. Standard conservation practices, such as crop rotation and contour plowing, have largely been abandoned.

Agriculture will continue to be important in Southern Illinois' economy and culture into the indefinite future, and, of course, farm fields, woodlands and orchards will continue to dominate its landscape. However, conservation tillage practices are recommended to reduce or eliminate tillage and protect the soil, as well as to save time and energy costs. Because of the region's physical limitations, the costs of overcoming soil limitations with greater fertilizer and chemical costs, and competition from other more productive farming areas, the region does not offer much potential for significant increases in agriculture in the near future.

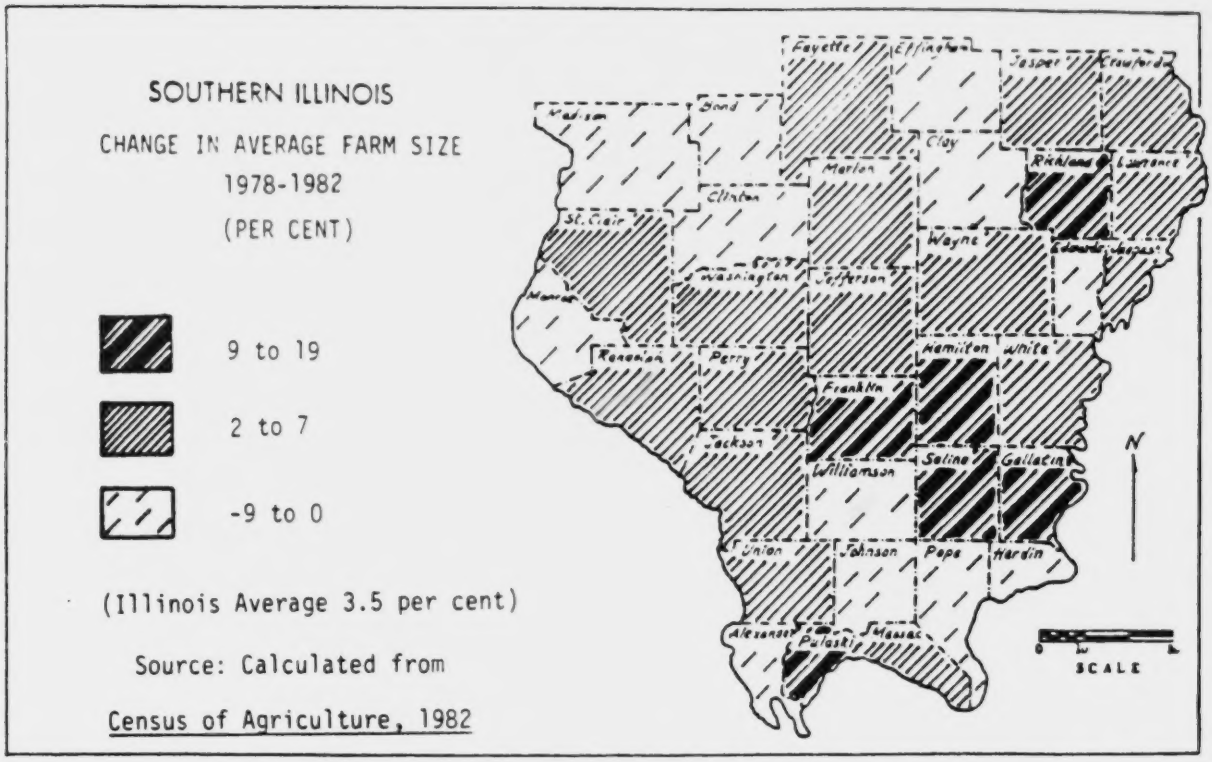
With no changes in farm technology or in the crops and livestock produced, farm consolidation will continue to increase average farm size and income, and rural population is likely to continue to decline (Figure 9). Given the environmental limitations of Southern Illinois agriculture, it would seem that farms need to be at least as large as those in the central part of the state in order to produce reasonable incomes. Viewed in this context, further migration from the farms of Southern Illinois should not be viewed with alarm. An increase in rural non-farm population and the development of rural non-farm estates is likely to offset some of the decline in farm population.

IX. Forests and Forestry*

Southern Illinois' forests are an important natural resource, occupying 21.3 per cent of the land, or 2 million forested acres (Figure 10). Ninety-seven per cent of this forest acreage is producing or capable

*Written by Dwight McCurdy, Professor of Forestry, SIU-C.

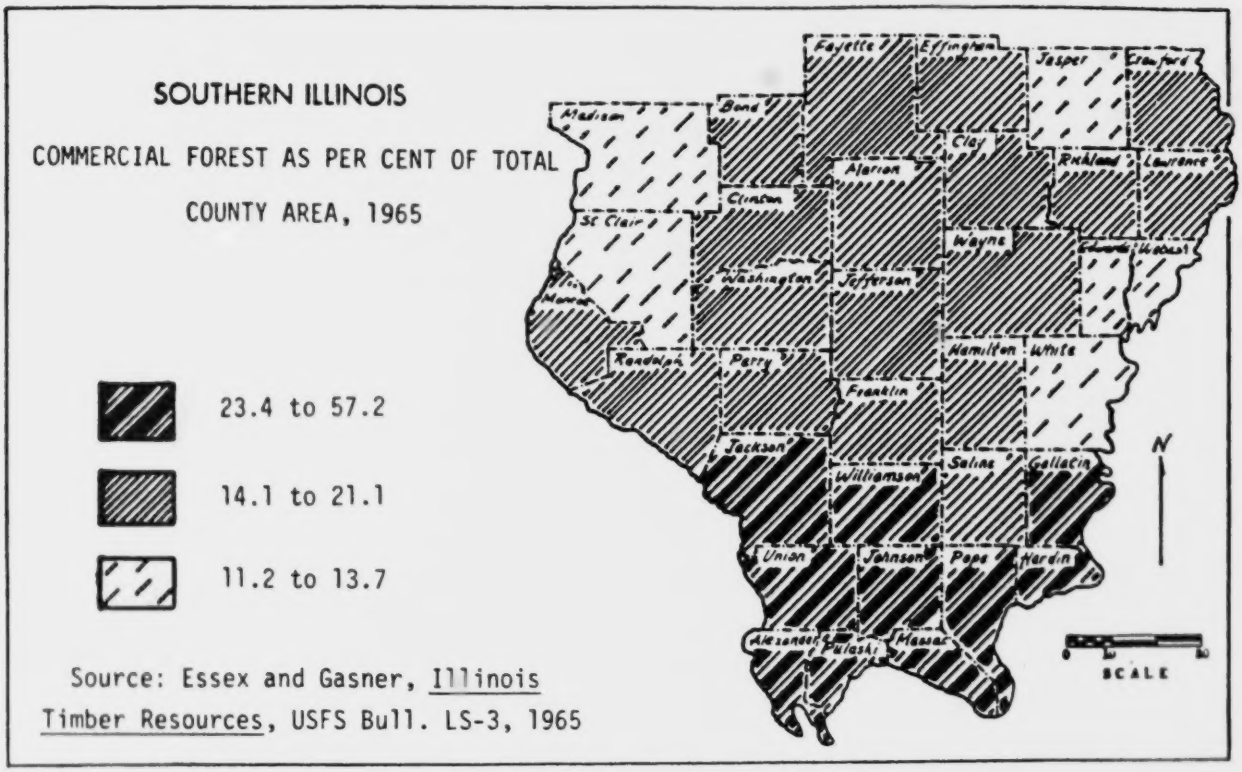
Figure 9



of producing crops of industrial wood. Six counties, Fayette, Jackson, Johnson, Pope, Union, and Williamson, each contain more than 80,000 acres of commercial forest. Pope County has the most forest of any county in Illinois. It contains more than 139,000 acres of commercial forestland which covers about 57 per cent of the total land area in the county. Ninety per cent of the forestland in the region belongs to private non-industrial landowners.

A majority of the state's public forestland (255,000 acres) is contained within the Shawnee National Forest (Figure 1) which is managed by the U.S. Department of Agriculture Forest Service. In addition, the Illinois Department of Conservation owns and manages the Trail of Tears State Forest. This 4,000 acre forest is located in Union County (Figure 16).

Figure 10



Ninety-eight per cent of the forestland contains mostly hardwood trees. However, there are approximately 45,000 acres of pine in Southern Illinois, located primarily in the Shawnee National Forest.

Southern Illinois forest lands support a valuable and stable primary forest products industry. The most common products are rough lumber, railroad ties, pallet lumber, and timbers for mine use. A few firms produce grade lumber. Other products include blocking, wood reels, handle blocks and wood chips. Another use of Southern Illinois forests that once again is becoming a major factor in the available supply of timber for forest products is the cutting of trees for firewood.

Sawmills are Southern Illinois' primary wood using industry, using lower quality and smaller trees. In addition, there is a chip mill, a handle plant (with a sawmill), and a firewood processing plant. Southern Illinois' 48 wood using firms employ about 350 people with a payroll

amounting to more than four million dollars and they utilize about 50 million board feet of saw timber annually. It is estimated that an additional 50 million board feet of higher grade Illinois saw timber are purchased by firms in adjacent states for lumber and veneer production.

The above consumption utilizes no more than half of the allowable cut (annual growth) of Southern Illinois' forests. Therefore, these forests could support a larger industry if adequate markets were developed. In addition, Southern Illinois forests are not producing at their full capacity. With proper protection and management the present growth rate could be increased significantly. In addition to the current one million acres of forestland, another one-half to three-quarter million acres are best suited for growing timber. Most of these potential forest lands are presently idle, producing no real wealth, no job opportunities, and contributing little, if anything, to the economy of Southern Illinois. Therefore, one of the most profitable opportunities for expansion of Southern Illinois primary wood-using industry is in the production of higher grade hardwood lumber.

It should be emphasized that in addition to timber production Southern Illinois forests serve many other functions. They provide basic resources for an environment for outdoor recreation and natural history study, wildlife resources for hunting and fishing, and the basis for control of erosion and water availability.

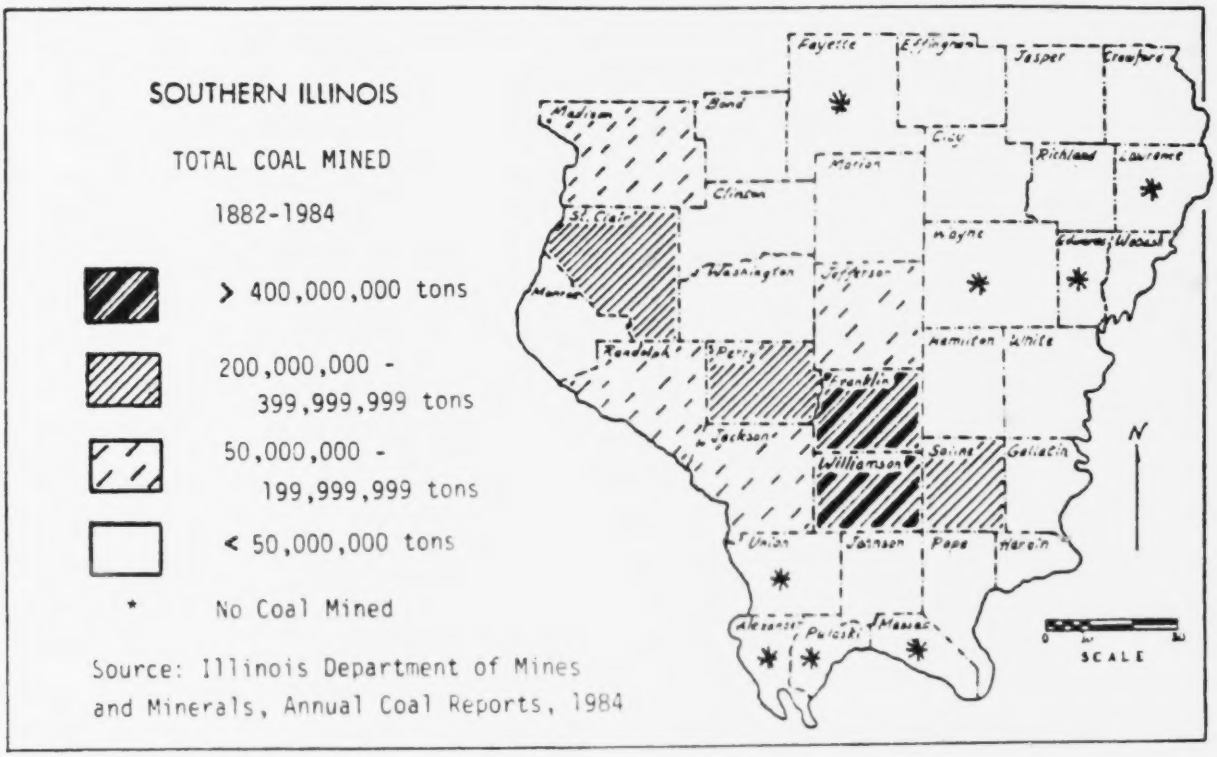
X. Mining in Southern Illinois*

Bituminous Coal

Southern Illinois' mineral success is based on its abundant bituminous coal resources. When coal is plentiful and in demand, several Southern Illinois towns and counties are well off. When coal mining is interrupted there is economic distress. Twenty-one of Southern Illinois counties have been and are the major producers of coal. Since 1844, these Southern Illinois coal counties have mined more than 60 per cent of the state's approximate total of 4.5 billion tons mined. Figure 11, Total Coal Mined 1882-1984, shows the 15 Southern Illinois counties where more than 50

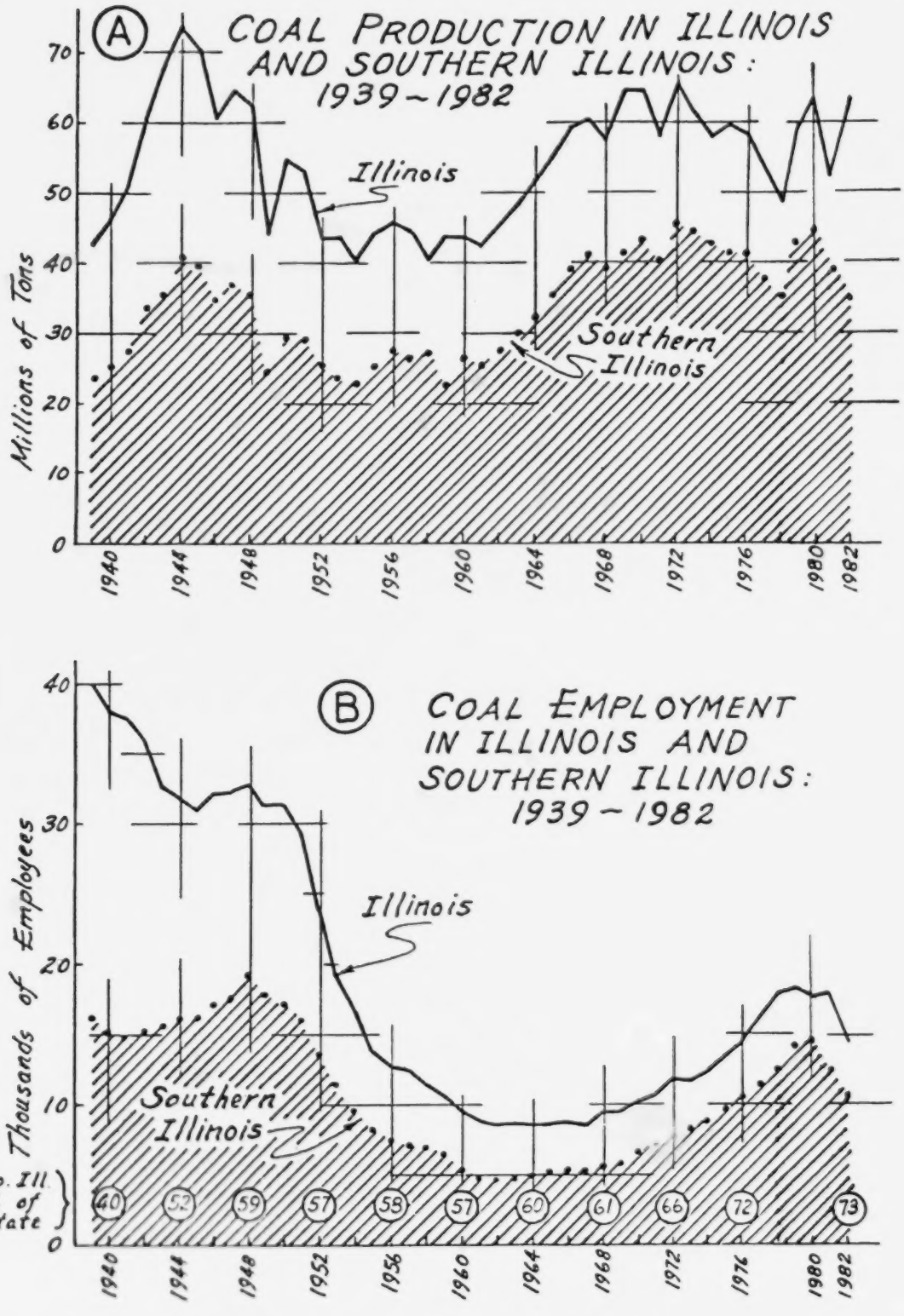
*Written by Doyne Horsley, Assistant Professor of Geography, SIU-C.

Figure 11



million tons have been mined and the two counties--Franklin and Williamson--which dominate the totals. Figure 12, Coal Production in Southern Illinois and Illinois: 1939-1982, shows a close linear relationship between total Illinois coal production and Southern Illinois coal production, with Southern Illinois providing from 60 to 70 per cent of the state's total through the years. The State's highest annual production since 1939 was in 1944 during World War II, and that peak has not been surpassed. Southern Illinois' World War II high of over 40 million tons has been surpassed in about ten of the past fifteen years. The "so-called" mining depression decade--1952-1962--hit Southern Illinois and other Illinois mines alike. However, the notable differences in production in 1953, 1959, 1970, 1973, 1974, 1976, and 1981 are partially due to union strikes which cut back mine production and thus account for the decreased levels of production especially in 1949, 1954, 1958, 1961, 1968, 1974,

Figure 12



Source: Illinois Dept. of Mines and Minerals, Annual Coal Reports, 1939 – 1982

D.E.C. – 1985

1977, and 1981. Since 1973 most production has come from fewer than 20 mines in four contiguous Southern Illinois counties. A majority of these are strip mining operations.

A comparison of Figure 12A with 12B, which depicts coal mining employment in Illinois and Southern Illinois, shows the increasing percentage which Southern Illinois has had of all miners in Illinois. In 1939-1949, Southern Illinois accounted for 40 to 50 per cent of Illinois coal miners. That per cent increased to 60 per cent in 1960 and has stabilized at about 70 per cent since 1972. The lowest level of employment of miners came in the 1960's for both Illinois and Southern Illinois. The number employed in the mines grew through 1980 and has declined again.

The majority of Southern Illinois total coal reserves* are in counties which to date have not been mined extensively--such as Wayne, Hamilton, White, and Washington where coal measures are not easily recoverable. Only recently are selected coal sites being opened and mined. Southern Illinois has more than 50 billion tons in reserves regarded as recoverable with available technology and mining methods. Randolph and Perry counties are large coal strip mining producers, yet they do not have the reserves of the older underground coal mining counties like Franklin County. However, Franklin County has never strip mined any coal and likely will never strip mine due to the coal's extreme depth. Another reason why much of Illinois' coal reserves are not economically recoverable at present is due to sulfur content levels. A sulfur content greater than .7 per cent sulfur by weight is found throughout nearly all of Southern Illinois coal seams. Southern Illinois coal also is "high sulfur" coal in relation to its B.T.U. content.

Since the energy crisis of the early 1970's the Southern Illinois coal mining industry assumed that it would play a significant role in energy needs of the future due to its large reserves. However, recent trends in coal use due to sulfur regulations in the 1970 Clean Air Act have changed the future outlook for Southern Illinois coal. Through the years electric utilities have consumed over 80 per cent of all Illinois coal, but in the recent past that level has dropped to 30 per cent because Illinois and mid-western utilities have purchased lower sulfur and higher heat content

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*Reserves are those coal measures which are 28 or more inches thick and are less than 1,000 feet deep.

coal from western states. Commonwealth Edison Utility was the second largest single user of Illinois coal in the 1980's. In 1978 it was buying less than one-half of its coal from Illinois mines. Peabody Coal Company recently lost its very large Missouri based Union Electric contract to provide coal over the long-term. Union Electric now is buying more western coal.

The coal mining future of Southern Illinois is uncertain and unpredictable. Currently coal lobbyists are pushing for a lowering of the sulfur standards in light of negative reactions to the oil crisis and to nuclear power as sources of electric power. Both of these events could encourage the use of coal, even high sulfur Southern Illinois coal, as a short-term alternative. Southern Illinois' coal future could be very promising if utility companies would choose to clean and use Southern Illinois higher sulfur coal. It could be depressing if they continue to choose western coal with lower sulfur and higher heat content.

An additional problem in the Southern Illinois coal industry is the fluctuation from year to year in coal employment and production. Such fluctuations do not provide the basis for a stable industry.

Undermining and subsidence are coal-related problems that hinder the region's economic development. Underground mining has left large portions of Southern Illinois with the danger of subsidence, and serious limitations must be put on the potential uses of land above these old mines.

Petroleum

In 1983, Illinois counties pumped more than 20 million barrels of crude oil with more than 70 per cent of the production from Southern Illinois. Even though Illinois oil firms have been pumping oil since the 1900's, Illinois accounts for an insignificant portion of the national energy needs. Southern Illinois' oil boom began in the late 1930's and accounted then for about 8 percent of America's oil production. Production dropped sharply in the 1970's.

Today Southern Illinois' oil is pumped mostly by secondary recovery methods and adds approximately 16 million dollars to the state's economy at pump head prices. Production from Illinois' 30,000 wells has been steady since 1920, and with secondary recovery should continue for two or three more decades depending in part on world oil price trends.

Other Mining in Illinois

Through 1979, Minerva Mine near Rosiclare, in Hardin County, was the single mining source of American fluorspar for American steel mills to use as a flux. Some fluorspar now is imported from Mexico. Southern Illinois' annual fluorspar production formerly averaged 60,000 tons and the operation at one time employed 500 to 600 workers. Only 163 workers were employed in 1979-1980.

XI. Manufacturing

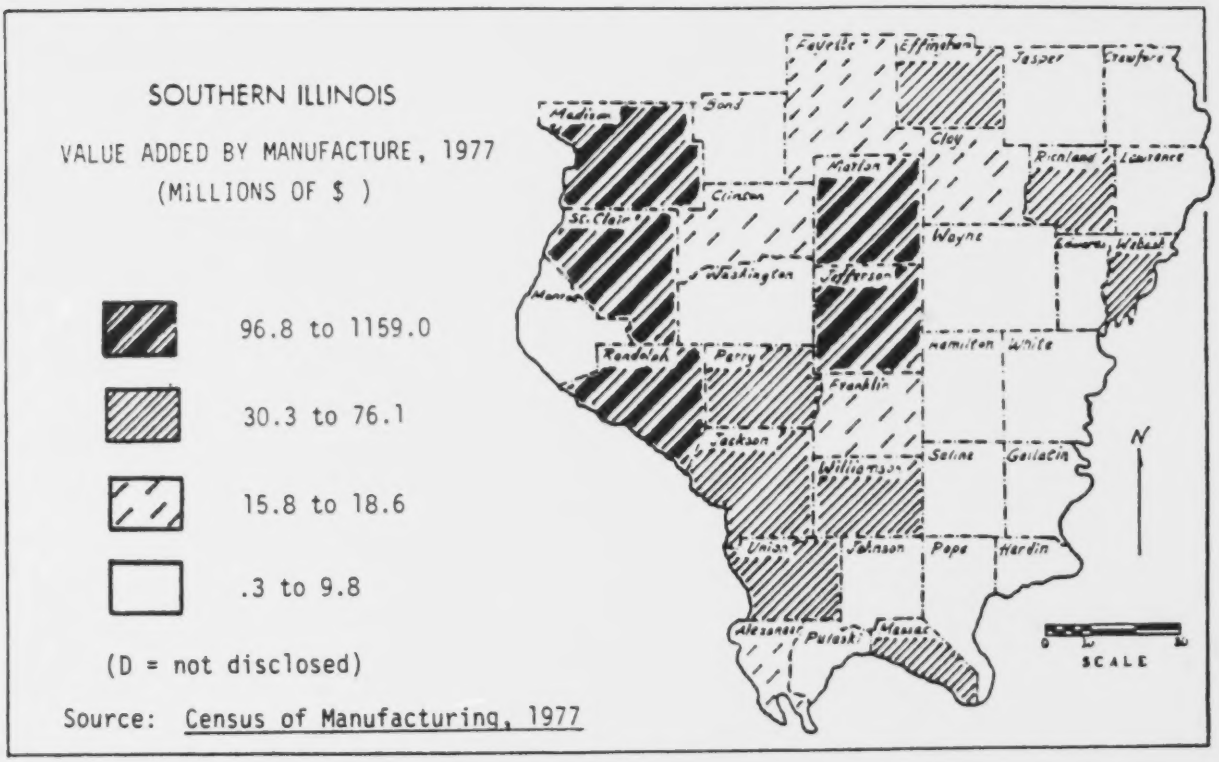
Southern Illinois, like most parts of the United States, is not noted for its industrialization. Although the area produced salt and village crafts in the early 1800's, iron production at Grand Tower during the Civil War, and more recently has produced shoes, apparel, foods, electrical machinery, auto accessories, metal working, comic books and magazines, Southern Illinois has comparatively less production and employment in manufacturing than most parts of Illinois.

Southern Illinois counties range from 1 (Pope, Johnson) to 53 (Edwards) in the percentage of all employees who work in manufacturing establishments. All counties have a substantial portion of female manufacturing workers, ranging from 19 percent in Madison county to 54 percent in Jasper county. During the 1970-1980 decade, the average proportion of female workers among manufacturing workers in Southern Illinois has remained stable at 27 per cent, but during this same decade the proportion throughout Illinois of female workers in manufacturing increased from 29 to 31 percent.

Value Added by Manufacturing (VAM) is the basic indicator of the importance of manufacturing activities, and on a map of the United States showing VAM by county, only those counties that are a part of the St. Louis Metro Area even show up as being important in manufacturing activities. However, even though Southern Illinois is not a major industrial area, manufacturing of some kind is important in almost all Southern Illinois counties (Figure 13). In fact, manufacturing establishments in the region employ over four times as many workers as farming, forestry and fishing activities combined.

Almost all manufacturing activity in Southern Illinois is centered in or adjacent to the many urban centers in the region. In many counties a single city dominates manufacturing activities (such as Cairo, Robinson, Albion, Metropolis); in other counties a pair of cities dominate (Centralia-Salem, DuQuoin-Pinckneyville, Herrin-Marion).

Figure 13



Although manufacturing industries are important and widespread in Southern Illinois, many of those present are not highly productive per worker. In a calculation of the VAM produced per worker (Figure 14), in 1980 there was a range of from $6000 of VAM per industrial worker to $43,000 among Southern Illinois' reporting counties. Furthermore, only six Southern Illinois' 34 counties had values of this indicator above $31,000, the state average.

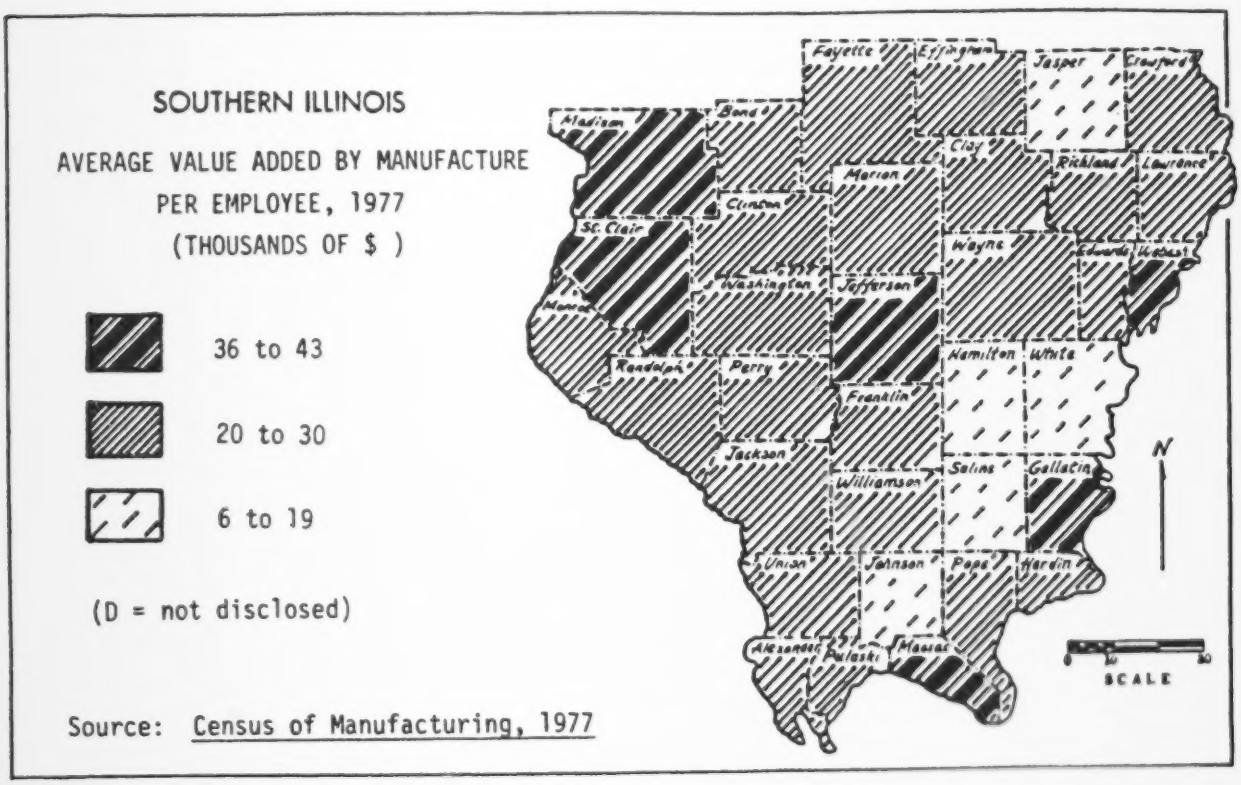
While total employment in the state and Southern Illinois increased from 1970 to 1980, the percentage of workers in manufacturing declined from 30 to 26 in Illinois and from 24 to 20 in Southern Illinois. Other changes are shown in Table 3.

Table 3

Percentage Changes in Manufacturing Employees 1970-1980
Illinois and Southern Illinois

	Illinois	Southern Illinois
Total No. of Employees	+14.7	+15.3
Total No. of Manufacturing Employees	-2.4	-6.6

Figure 14



It is apparent from Table 3 that while total employment is increasing in Illinois as a whole and in Southern Illinois, the proportion of workers in manufacturing employment has declined far more in Southern Illinois than the rest of the state. This change underscores the shift in the region's economy to greater emphasis on employment in service occupations.

Except for Madison and St. Clair Counties in the St. Louis metro area, Southern Illinois manufacturing is predominantly light industry of nondurable goods. It includes the processing and assembling of goods such as clothing, apparel, beverages, confectionary, chemicals, food processing, leather goods, printing, machine assembly, and lumber manufacture. There is a large supplier of automobile software and a washing machine manufacturer in Herrin, large printing firms in Effingham and Salem, a large hand tool factory in Mt. Carmel, and large chemical establishments in Metropolis and Marion. Major industries in Madison and St. Clair Counties include primary metals, electrical and other machinery, chemicals, and fabricated metals. In all, Southern Illinois has about 110 firms (other than coal mines and refineries) which employ 100 workers or more. Of these, about 30 employ more than 350 workers, the largest employing over 2000 workers.

Mt. Vernon, Salem, Herrin, Effingham and other towns with easy interstate highway connections have increased manufacturing employment rapidly in recent years and many communities have active economic development initiatives underway. Only about half of the industries in the region are unionized.

The region's location on the fringe of the nation's great northeastern manufacturing belt, its energy, basic resources and labor supply, its ample utilities infrastructure, the improved transportation linkages of the region to resources and markets in all parts of the nation, and the many amenities the region offers as a pleasant place to live should continue to make the region an attractive place for the location of other processing, manufacturing and assembly plants. Current pollution laws discourage the location within the region of industries or utilities that would be potentially dangerous water or air polluters. However, due to the wide range of options that are available, these restrictions need not hamper the region's industrial development.

XII. Utilities

Manufacturing industries and all municipalities and individual customers depend on water, electricity and gas utility services. Because of the region's generous annual precipitation it is blessed with more than adequate water resources.

Facilitated by its varied topography, numerous lakes have been built in recent decades to provide a more ample and dependable water supply as well as recreation facilities for the region's growing population. The largest multi-purpose man-made lakes in Southern Illinois are Rend Lake and Cedar Lake (Figure 1). Other artificial lakes (like Crab Orchard, Little Grassy and Devil's Kitchen Lakes) are basically for outdoor recreation and wildlife management. Sites for additional reservoirs are available to increase the region's water supply. However, the region's tight soils, which are an asset in reservoir construction, must be acknowledged as a liability in the management of sewerage.

Energy production in Southern Illinois is interesting because the region is rich in coal and has some petroleum and gas resources, and there is a potential for the expanded use of wood as a source of energy. The region therefore can provide for some of its own energy needs.

Electric power is provided to the eastern and southern portions of Southern Illinois by the Central Illinois Public Service Company (CIPS). Virtually all CIPS power is generated using coal. CIPS reported that in 1983 they used over 5 million tons of coal in generating power for about half of Illinois' counties. About 80 per cent of the coal used by CIPS is mined in Southern Illinois, making this utility a major user of the region's coal resources. Most of CIPS customers are residents and businesses in the region's towns and cities; and about 15% of CIPS power sales are to Illinois coal mines. CIPS also sells power to rural electric cooperatives and several municipalities. These in turn sell to their own rural and urban customers. Present CIPS generating facilities in Southern Illinois are considered capable of providing energy into the next decade; and also, without the additional costs of construction, rates for electric energy to CIPS customers should remain relatively stable.

Electric power is supplied to almost all of the Illinois portion of

the St. Louis Metro area and nearby counties by the Illinois Power Company (IPC). Like CIPS, IPC generates over 99% of its power using coal (over 7 million tons; 80% Illinois coal). A nuclear power plant being completed in Clinton will add to their generating capacity and is expected to be in operation by mid-1986. Like CIPS, IPC sells most of its power to residential, commercial and industrial customers, to several municipalities and rural cooperatives. Union Electric Company, the third major power company in Southern Illinois, provides power to customers in several communities south of East St. Louis.

CIPS and IPC also provide gas service. Both buy gas from various Texas pipeline companies and sell gas to users in Southern Illinois.

Besides providing energy, both IPC and CIPS provide services to help industries already in the region (with energy management advise, marketing, research and technical assistance, and labor force and financing advice) and to attract new industries to the region (with data on sites available labor supply as well as the services noted above).

CIPS provides a rate discount of up to 50% to a business willing to operate during non-peak hours, i.e., during night hours when the overall demand for energy is lowest.

With ample electric generating capacity and a network of 345,000, 161,000 and 138,000 volt major transmission lines criss-crossing the region, also with a network of 26, 30 and 36 inch major gas lines, the region is well served with these utilities. And, unlike many areas throughout the country, Southern Illinois, especially through its coal resources, is in a position to provide a portion of its own energy needs while at the same time providing employment in the region's mines. Clearly the region's energy future is bright and offers the basis for further economic development.

XIII. Towns, Cities and Regional Retail Perspective*

In analyzing the Southern Illinois region, it is important to consider the impact that major towns have on the region's business. Impact, in this sense, is considered to be how much goods and services people from Southern

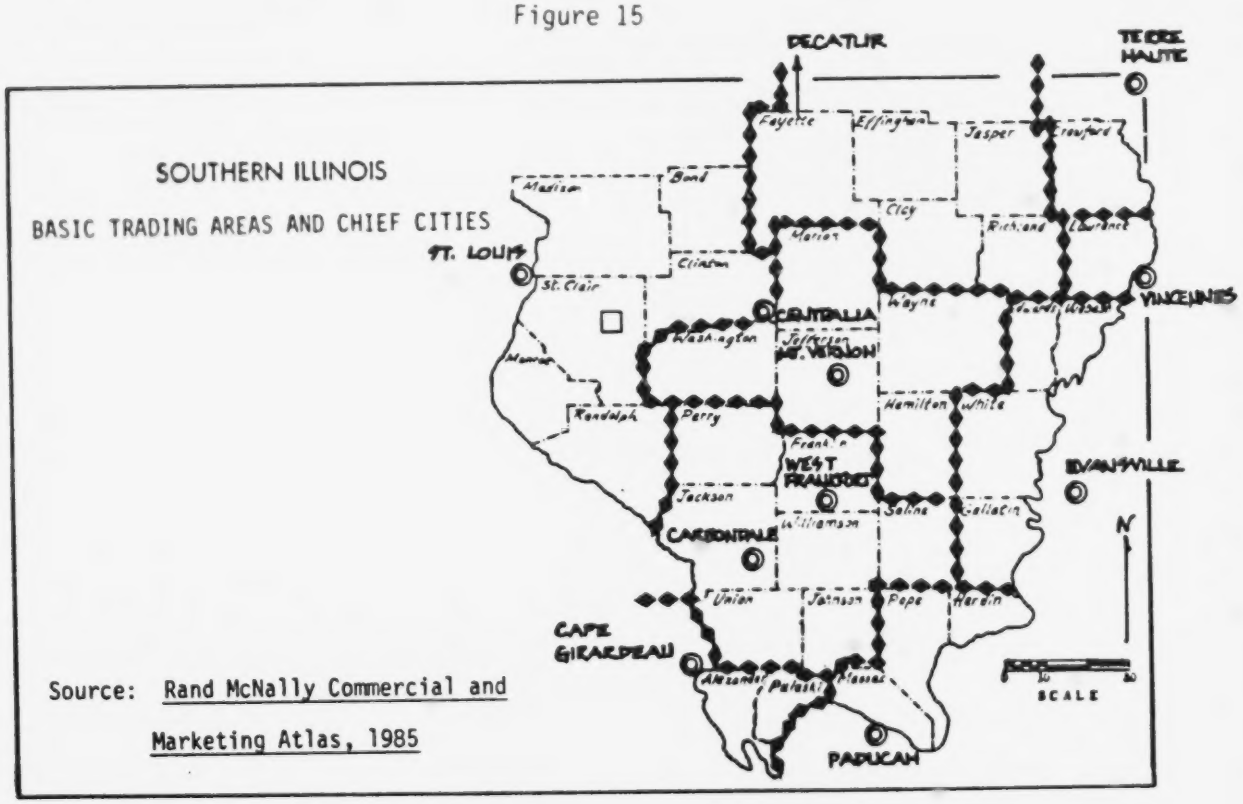
*Original draft written by Todd Sigler, MPA Graduate Student.

Illinois purchase from the larger urban centers within the region and in neighboring states.

The Rand McNally - Commercial Atlas and Marketing Guide identifies business centers across the country which are important to particular regions. In this guide, 50 areas focussing on major cities throughout the country have been designated as Major Trading Areas. For the Southern Illinois region, the Major Trading Areas are St. Louis, Chicago and Louisville. Of more direct applicability to this study, however, are the Basic Trading Areas (BTA) and the major town in each. There are 494 BTA's across the country as defined by Rand McNally. Each BTA has one or two cities which serve as centers for purchases of shopping goods for a significant surrounding area as well as their own population. The Southern Illinois region is identified with nine BTA's, four of which are located partially or entirely outside of Illinois.

Figure 15 shows the range of economic impact for each in-state and out-of-state BTA. Carbondale and West Frankfort are identified as key

Figure 15



Source: Rand McNally Commercial and Marketing Atlas, 1985

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centers in a seven county BTA in Southern Illinois. Mt. Vernon and Centralia are key centers in a five county BTA north of the Carbondale-West Frankfort BTA. Other Southern Illinois counties are economically oriented to Decatur, Illinois, to Evansville, Vincennes and Terre Haute, Indiana, to Paducah, Kentucky, and to Cape Girardeau and St. Louis, Missouri. The major city impacting the most on Southern Illinois is St. Louis. Its BTA includes six Southern Illinois counties. St. Louis' population and retail sales dwarf that of all other BTA's impinging on Southern Illinois (Table 4). However, it is remarkable how uniform all nine of these BTA's are in terms of Retail Sales per person. The last column of figures in Table 4 suggests that although the population of the St. Louis metro area is eighty to ninety times larger than that of any urban center in the Southern Illinois area, its drawing power for retail sales is no more than 7 per cent greater than the smaller places.

During the 1965 to 1985 decades all central business districts in Southern Illinois towns experienced a loss of businesses and economic activity. Numerous businesses that had been locally owned and operated were closed as branches of national firms moved in. The larger towns responded by construction of shopping centers and shopping malls. These included a few locally owned businesses that had moved from downtown; however, most firms in the new "climate controlled" shopping malls were chain stores from outside the region. As the shopping malls were established, business in the smaller towns declined still further, usually to retain only basic necessities. The smaller communities, therefore, with declining population and business, have become dormitory or residential communities for the larger towns.

XIV. Tourism and Outdoor Recreation*

Tourism has always been tied to transportation, and Southern Illinois became a resort mecca during the late 19th century because the area's resort "springs" were served by the then extensive railway system.

During and following the Depression, attention was given to facility development. However, since public assistance projects had to be "public",

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*Written by Dwight McCurdy, Professor of Forestry at SIU-E and Joel Satterfield, Executive Director, Mt. Vernon Convention and Visitors Bureau.

Table 4

Population and Retail Sales For Selected Urban Trading Areas in and Near Southern Illinois

	Population of Center City or Cities (in thousands)	Population of BTA (in thousands)	Retail Sale of BTA in Millions of $)	Retail Sales per Person in $
WITHIN SOUTHERN ILLINOIS REGION				
Mt. Vernon-Centralia	18-15	129	630	4,884
West Frankfort-Carbondale	10-27	248	1,179	4,754
OUTSIDE SOUTHERN ILLINOIS REGION				
Cape Girardeau, MO	36	172	866	5,035
Evansville, IN	129	544	2,577	4,737
Decatur, IL	96	338	1,639	4,894
Paducah-Mayfield, KY	29-11	214	1,034	4, 32
St. Louis, MO	426	2,726	13,985	5,130
Terre Haute, IN	59	283	1,433	5,064
Vincennes, IN	21	99	405	4,091

Source: Rand McNally Commercial Atlas and Marketing Guide, 1985.

new overnight accommodations near the new highways were the last to be built and then only with private money. Although World War II stalled tourism development in Southern Illinois, the period following the war saw new interest in the many natural features that developers knew could bring tourism success.

Within the last thirty years, and following the development of interstate highways and local regional airports, tourism has now increased

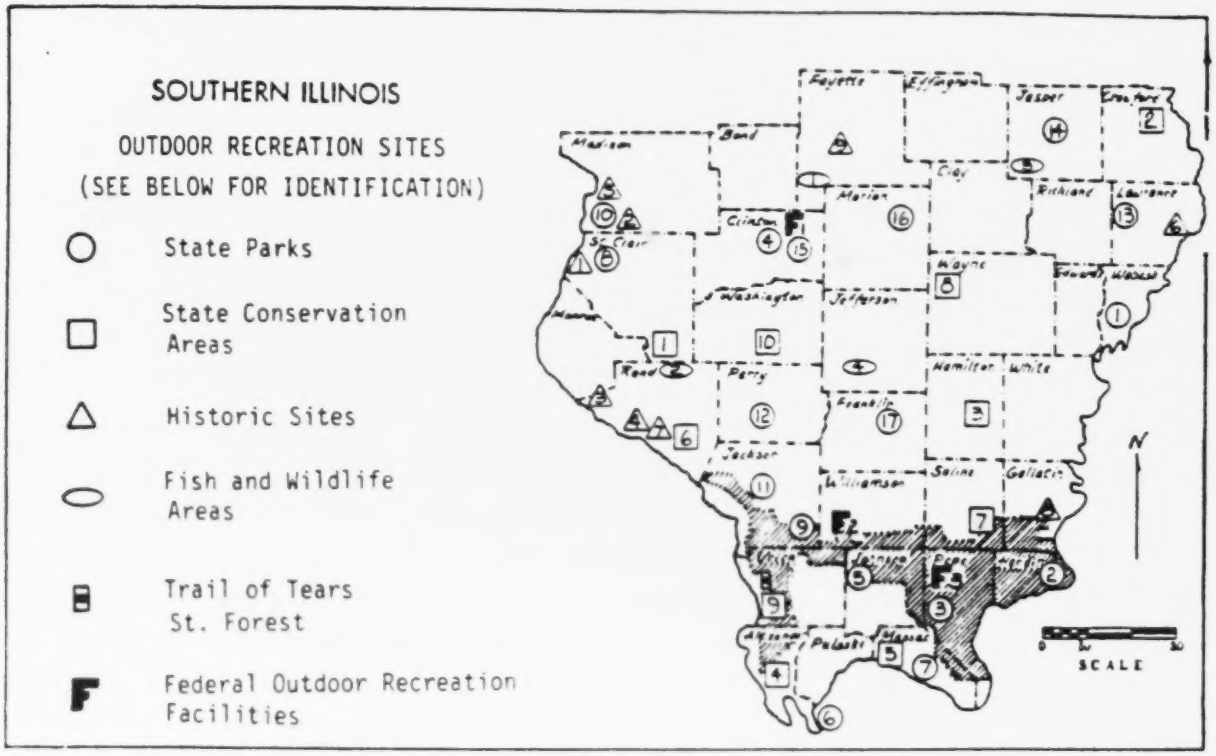
in Southern Illinois. The southern one-third of Illinois has slowly started to build hotels, restaurants, and tourist attractions based on the area's history and beauty. Most of the new development has been occurring on private land rather than public lands.

Southern Illinois has now built enough hotel/motel rooms in cities like Carbondale, Marion, Mt. Vernon, and Collinsville/Metro-East, that travelers, both for pleasure and business, can now find convenient lodging and hospitality services to meet almost any budget. The new hotels are starting to change the image of Southern Illinois from "a pretty place to pass through" to "an interesting place to go". Adding to this impetus are the convention/conference centers already built or planned for the region's larger towns and cities, such as Mt. Vernon, Marion and Carbondale.

Southern Illinois contains an abundance and variety of outdoor recreation resources (Figure 16). There are nearly 400 developed recreation areas containing more than 500,000 acres of land accessible to the vacationing public. These developed recreation areas contain nearly 300 lakes and ponds with more than 100,000 acres of water. More than 30 rivers and streams provide nearly 100 miles for boating and fishing. Access to these water areas is possible at more than 200 launching sites and there are about 2,000 boat mooring slips. Forty public beaches and forty swimming pools are available, and there are about 130 hiking areas totalling 400 miles of trails. Finally, about 9,000 campsites are available at public and private camping areas.

The Illinois Department of Conservation provides the largest number of developed outdoor recreation areas in Southern Illinois in 17 state parks, 11 conservation areas, 9 historic sites, 4 fish and wildlife areas (Figure 16). The majority of the land available for outdoor recreation is managed by federal agencies (Figure 16). The Shawnee National Forest has developed areas covering 255,320 acres; the Corp of Engineers manages two large reservoirs (Carlyle Lake and Rend Lake); and Corp projects include 15 developed areas covering more than 120,000 acres of land and water. The U.S. Fish and Wildlife Service manages the Crab Orchard National Wildlife Refuge (17 recreation areas, 3 lakes, totaling 43,000 acres of land and water), and four recreation areas are administered by Conservancy Districts such as the Kinkaid-Reids Creek and Rend Lake Conservancy Districts.

Figure 16



ILLINOIS DEPARTMENT OF CONSERVATION RECREATION AREAS

State Parks

1. Beall Woods
2. Cave-in-Rock
3. Dixon Springs
4. Eldon Hazlet
5. Ferne Clyffe
6. Ft. Defiance
7. Ft. Massac
8. Frank Holten
9. Giant City
10. Horseshoe Lake
11. Lake Murphysboro
12. Pyramid
13. Red Hills
14. Sam Parr
15. South Shore
16. Stephen A. Forbes
17. Wayne Fitzgerrell

Conservation Areas

1. Baldwin Lake
2. Crawford County
3. Hamilton County
4. Horseshoe Lake
5. Mermet Lake
6. Randolph County
7. Saline County
8. Sam Dale
9. Union County
10. Washington County

Historic Sites

1. Cahokia Courthouse
2. Cahokia Mounds
3. Ft. de Chartres
4. Ft. Kaskaskia
5. Lewis and Clark
6. Lincoln Trail Monument
7. Pierre Menard Home
8. Shawneetown
9. Vandalia Statehouse

Fish and Wildlife Areas

1. Carlyle Lake
2. Kaskaskia River
3. Newton Lake
4. Rend Lake

FEDERAL GOVERNMENT FACILITIES

1. Carlyle Reservoir, U.S. Army, Corp of Engineers
2. Crab Orchard National Wildlife Refuge, U.S. Department of the Interior, Fish and Wildlife Service
3. Shawnee National Forest, U.S. Department of Agriculture, Forest Service

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In addition to these regional outdoor recreation facilities, local recreation areas are offered by Park Districts (104 areas) and City Recreation Departments (62 areas). Finally, there are more than 65 commercial outdoor recreation enterprises in Southern Illinois.

Besides recreation facilities that are available most of the time, Southern Illinois has several local recreational fairs and festivals with long standing traditions and specialized purposes. Many of the counties conduct annual county fairs, one of America's oldest recreational and social events, and more than a dozen specialized seasons or multi-day events are held at various places throughout the year such as:

The Pope County Deer Festival during fall deer season

The annual Easter service at Bald Knob Cross

Carbondale's annual Halloween Festival

Mt. Vernon's annual Cedarhurst Arts and Crafts Festival

West Frankfort's annual King Cole Festival

Murphysboro's annual September Apple Festival

The annual Popcorn Festival in Ridgeway

The August State Fair and camping and folk craft festivals in DuQuoin

The Rend Lake festival which celebrates the diverse recreational facilities of this major Corps of Engineers' project

The Crab Orchard Wildlife Refuge in Williamson County which is the focal point of the fall goose hunting season in Southern Illinois

All of the agencies involved in Southern Illinois recreation development are looking more critically at questions such as: What good are the public developments if areas developed, preserved and protected are not used by the people for which they are supposedly developed or preserved? What long-term benefit can come to the region if recreational or any business development destroys the region's beauty and attractiveness? Controls that may have prevented economic development are now being reviewed so new revenues generated can be retained for longer term benefits to the region. Could a "Shawnee Lake" and a cross-state canal have a positive impact on the region as a development and recreation center for the Midwest? This last question is considered briefly in the concluding section.

XV. Other Proposals for Southern Illinois Development

The preceding sections have presented ideas and directions for action to overcome some of the region's problems and to take advantage of the region's diverse potentials. This concluding section presents several ideas and concepts for regional development. None of them would be inexpensive to implement. All would require careful study of potential benefits in relation to costs. All would involve positive and negative environmental impacts that would need to be weighed. All are potentially controversial, some even involving power politics and competition between Illinois and its neighboring states. However, despite the possible problems they deserve careful analysis and consideration.

1. Cross-State Canal. The idea of a barge and pleasure boat canal crossing Southern Illinois from the Wabash or Ohio River to the Mississippi has been suggested for many years.

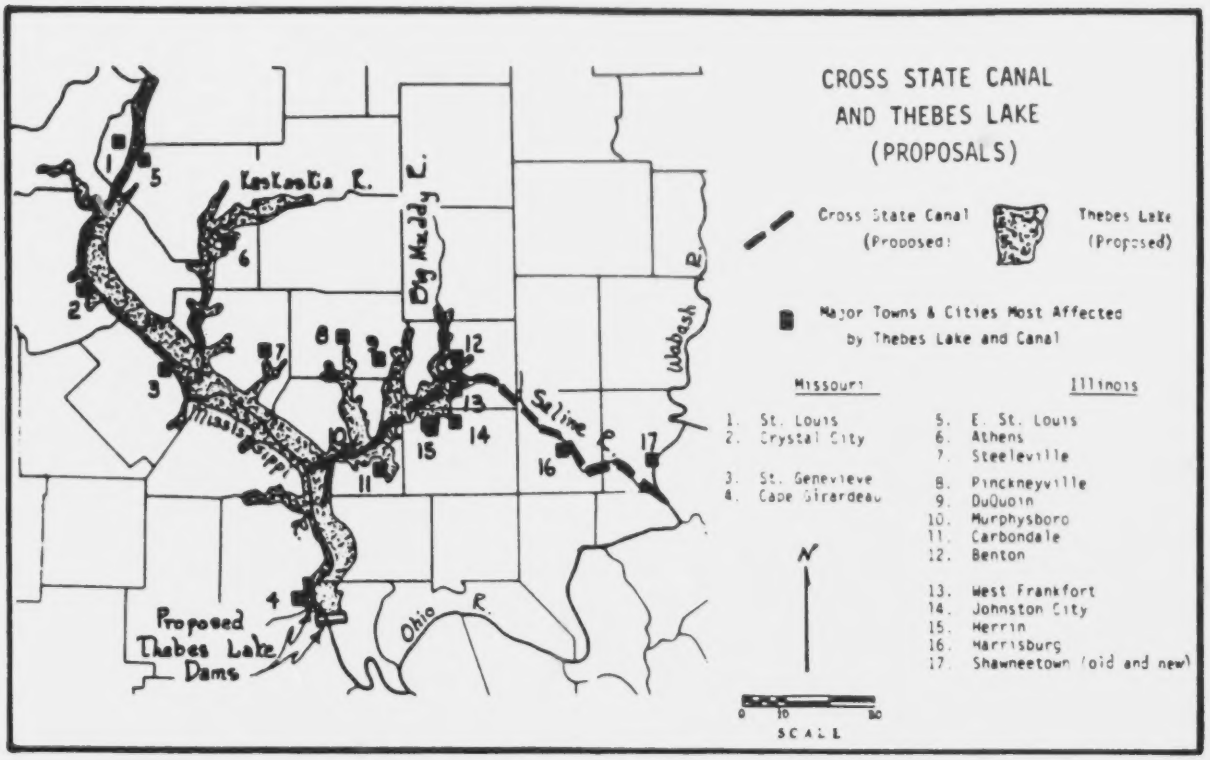
The region's coal and petroleum-resources, its central location among major rivers and its industrial potential cannot help but bring to mind the Ruhr Valley Industrial area, the heart of West Germany's industrial complex.

A canal crossing Southern Illinois (Figure 17) would make many of the region's coal mines and towns accessible to water transport, the least expensive mode of transport available. Canal connections with the Wabash/Ohio and Mississippi Rivers would make it possible to export coal and some heavy finished products from the region and to bring in various raw materials.

At the same time the canal would draw pleasure boat operators to avail themselves of the region's many attractions.

2. Thebes Lake. In 1964 Frank Thomas, Associate Professor of Geography at SIUC proposed consideration of Thebes Lake. This major lake, at about 400 feet above sea level and with a dam across the Mississippi River at Thebes, Illinois, would extend from Thebes to St. Louis and up the Big Muddy River into Jefferson County (Figure 17).

Figure 17



Such a lake would assist navigation in this section of the Mississippi and Big Muddy Rivers, and could be a boon to development of much of Southern Illinois. On the other hand it would inundate thousands of acres of fertile farmlands and put many farmers out of business. It also would inundate sections of roads and railroads, would inundate major portions of several communities and create a barrier for crossing the Mississippi River.

3. Shawnee Lake. As proposed in 1983 by David Christensen, Shawnee Lake, formed by a dam on the Big Muddy River just below Murphysboro, would extend to the Rend Lake Dam (Figure 18).

Involving a lake at 380 feet above sea level and only the watershed of the Big Muddy River within Illinois, it is a more modest proposal than Thebes Lake, but it could have a major impact on the future of Southern Illinois.

Advantages and disadvantages of the 380' above sea level lake are summarized in Table 5.

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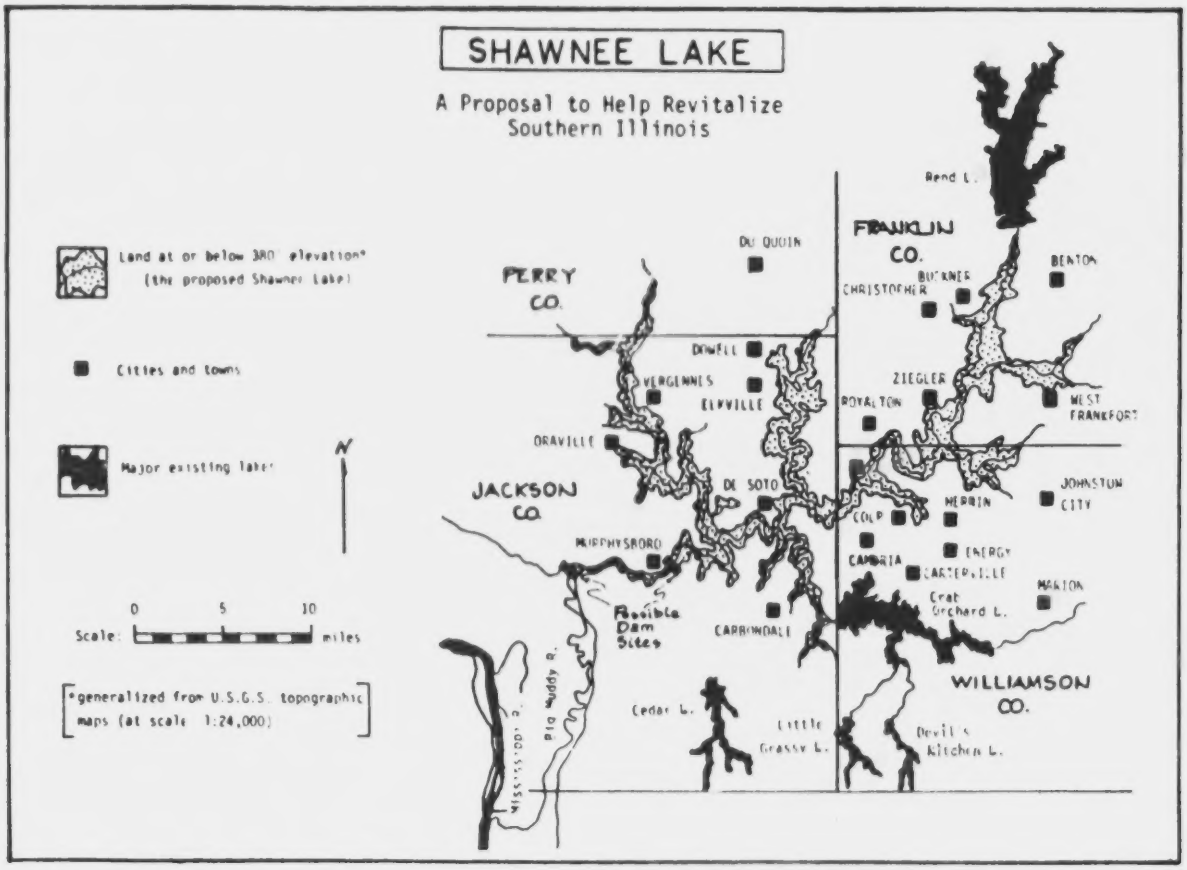
Figure 18



4. A Major Airport for Southern Illinois. About ten years ago plans were being considered for a major international airport to be located in the Columbia-Waterloo area south of East St. Louis. This airport was considered necessary because of limitations of the Lambert Field area for adequate expansion to safely accommodate the region's air service needs into the 1990's.

As originally conceived the Columbia-Waterloo Airport was to replace Lambert as the St. Louis Metro area's major airport. The Columbia-Waterloo airport project, despite strong support from many quarters, including airline pilots and some Missouri officials and a general acknowledgement that it was the best site in the St. Louis area for such a facility, floundered in the arena of party politics and in a short-sighted competition between Illinois and Missouri.

During early 1985 Representative Kenneth Gray proposed that Scott Air Force Base facilities (east of East St. Louis) might be expanded to serve both civilian and military uses (Figure 7). This proposal needs careful consideration and indeed this may be the way to begin to provide the Illinois portion of the St. Louis Metro area with better domestic and

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TABLE 5

PRO'S AND CON'S OF PROPOSED SHAWNEE LAKE IN SOUTHERN ILLINOIS
(At a level of 380 feet above sea level)

PRO'S

1. The project would create a lake from about one-half mile to two miles wide for a total linear distance of over 30 miles. (Counting the mainstem of Big Muddy River and its major tributaries. Rend Lake and Crab Orchard Lake are above 400 feet ASL and would not be involved with Shawnee Lake.)

2. The lake would convert the region's most poorly drained and flood prone lands to a potentially greater use. Much of the land to be inundated is in swamp or low productivity forest.

3. The region is beset with problems of high chronic unemployment and economic stagnation. The region needs something that will galvanize the people into positive action and give them more than hope for a better future. Whatever is done must not disadvantage the region's cultural wealth and diversity.

4. The lake, with all of its recreation, water supply and navigation potentials, would increase the attractiveness of the region for different groups and economic functions: new industries (and perhaps make possible revival of the Ordill Industrial area as an industrial park); coal mines (perhaps, with improvement of the lower portion of The Big Muddy River and a navigation lock at the dam, using the lake as a navi- gation channel); business; tourists; students; and retirees.

5. The lake would provide a much-needed, diverse and powerful new element in the region's economic base.

6. Many of the cities and towns in the region would become lake-ports and all communities would be within 5 or 6 miles of the lake. Thus, all would be able to benefit from the lake as an amenity to attract new business, industry, students, retirees, etc.

7. Preparation of the lake bed, which would take several years, would provide much needed employment for many of the region's hard core unemployed. Support for this work might be possible under recently enacted (or to be enacted) federal work program.

8. With support from the area's Congressional representatives and political leaders and Congressional approval, the project might be funded in large part through The Corps of Engineers, Dept. of Labor, etc.

9. Construction of the dam and coordination of the work would be done by the Corps of Engineers, providing work for some of the region's less than fully employed construction workers.

10. Promotion of the region could and should be done on a region-wide basis. Almost all of the proposed lake and the towns that are most likely to benefit from it are in three counties (Jackson, Franklin, and Williamson).

11. These three counties are part of the Greater Egypt Regional Planning and Development Commission, which could help in the planning and development of this project.

12. The dam, similar to that for Kinkaid Lake, should pose no engineering problems.

CON'S

1. The project would cause the inundation of about 60 square miles of low-lying land, most of it forested but some probably classed as prime farm land.

2. The project would cause the relocation of residents of low-lying areas below and near the 380 feet ASL elevation.

3. The project would require the construction, reconstruction and/or rerouting of some railroads and roads and the modification and construction of several bridges.

4. The project would require that several oil pumps be reconstructed onto platforms above water level and movement and/or construction of some oil pipelines and storage tanks to points higher that 380' ASL on the lakeshore.

5. The project would cost a substantial sum of money for land acquisition, relocation of residents, construction and reconstruction - which the region does not have.

(Proposal by:

David Christensen
Geography Department
STU-Carbondale
May 1983)

international air services. Such improved air services can not help but increase Southern Illinois' accessibility and therefore its attractiveness for all kinds of economic development. Improved air service also would strengthen Governor Thompson's industrial corridor concept (from Carbondale to Belleville.

For Further Reading on Southern Illinois

1. Edward A. Ackerman, "Problems for Resource Development Planning in Southern Illinois," Occasional Publication of Southern Illinois University, SIU Press, Carbondale, 1960, 23 pages.

2. Oliver W. Beimfohr, Industrial Potential of Southern Illinois, Southern Illinois University, Carbondale, 1954, 138 pages.

3. David E. Christensen and Robert A. Harper, Co-Editors, The Mississippi-Ohio Confluence Area, National Council for Geographic Education, Special Publication Number 12, 1967, 49 pages.

4. David E. Christensen and Doyne Horsley, "Southern Illinois, A Regional Profile." prepared for the Task Force on the Future of Illinois, 1979, 30 pages.

5. Charles C. Colby, Pilot Study of Southern Illinois, Southern Illinois University Press, Carbondale, 1956, 94 pages.

6. Executive Committee on Southern Illinois, Southern Illinois: Resources and Potentials of the Sixteen Southernmost Counties, University of Illinois Press, Urbana, 1949, 193 pages.

7. Edward E. Hall, The Geography of the Interior Low Plateau and Associated Lowlands of Southern Illinois, Published by John Swift, Chicago, 1940. Southernmost eleven counties, 109 pages.

8. William A. Pitkin, "Southern Illinois, Land of Fruitfulness and Plenty," July 1963, mimeographed, 43 pages.

9. Theodore H. Schmudde, Robert A. Harper and Frank H. Thomas, "Economic Revitalization in the Confluence Region: An Argument for a Regional Scale Approach to Areas of Depression, " Occasional Papers in Geography, (SIU-C), Number 2, 1965, 30 pages.